Heavy menstrual bleeding: who suffers, who consults and why?

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Preface

This thesis was written by me and based on my own work. In carrying out this study I was part of a research team which was jointly responsible for the design of the study and for supervising the collection and analysis and data. However, all data collection and analyses were carried out by me and, although I have received invaluable advice and feedback while preparing this thesis, I wrote it myself and take full responsibility for its contents.

This work has not been submitted for any other degree or professional qualification.

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Abstract

Background

Heavy menstrual bleeding is thought to affect approximately one third of women of reproductive age. Approximately 5% of women aged 30 to 49 consult their general practitioner annually and there is concern about the numbers of women who undergo surgery. It has been suggested that reassurance and counselling might mean that referral and surgery could be avoided for many women. However, little is known about why, of the large numbers of women affected, some consult and others do not.

Aims

- To ascertain the prevalence of heavy menstrual bleeding and of reporting periods as a problem.
- To model reporting of 'problem' periods and consulting in terms of socio-demographic, other non-menstrual health factors and menstrual symptoms.
- To explore perceptions of periods as heavy or a problem and investigate self care, informal and formal help-seeking amongst women with heavy menstrual bleeding.

Methods

Questionnaires were sent to 4610 women aged 25 to 44 sampled through general practice lists. Those reporting heavy or very heavy menstrual bleeding and agreeing to participate further were sent a second more detailed questionnaire within a month and a follow-up questionnaire six months later. Qualitative interviews were carried out with 32 women who had reported their periods as heavy or very heavy. Factors

associated with reporting periods as a problem and consulting about periods were examined using multivariate logistic regression analyses controlling for age, parity, post-code derived deprivation, hormonal contraception and longstanding illness. Qualitative data were analysed using a constant comparative approach.

Results

The response rate to the first questionnaire was 61.5% after one reminder Of women who had menstruated in the past six months, 30.1% (95% CI 28.3 to 31.9) reported heavy periods, a further 5.3% (95% CI 4.5 to 6.1) very heavy periods and 14.6% (95% CI 13.2 to 15.9) severe period pain. Only 21.6% (95% CI 20.1 to 23.2) reported their periods as a marked or severe problem. Multivariate logistic regression showed reported 'problem' periods to be associated with use of non-hormonal or no contraception, longstanding illness, heavy or very heavy menstrual loss and menstrual pain. Severe pain was at least as strongly associated with 'problem' periods as very heavy loss. Qualitative findings suggested that many women spoke with uncertainty about judging 'heaviness', referring to a variety of factors including personal norm, degree of difficulty in coping with blood loss or pattern of loss. Judging 'problem' periods seemed more straightforward, focusing largely on their impact on everyday life.

Consulting about periods in the last six months was reported by 18% (95% CI 16.4 to 19.6) of all women and 25.1% (95% CI 22.2 to 28.1) of women reporting heavy or very heavy loss. Further details about women reporting heavy or very heavy periods

were available from the second questionnaire which was sent to 787 women with a response rate of 80%. Multivariate analysis showed that, amongst those reporting heavy periods, consulting in the past six months was associated with reporting 'very heavy' loss, resting most periods, shorter duration of symptoms and reporting periods as a 'problem'. Qualitative analysis suggested that women viewed menstrual symptoms as something to be managed themselves, either alone or in discussion with lay others, and knowledge of treatments available was sometimes limited. Women spoke about decisions to consult mainly in terms of impact of symptoms, failure of effectiveness of self-care, wishing to access resources through the GP and, for some, worry about the possible cause of symptoms.

Conclusions

Reporting menstrual symptoms was very common whereas reporting periods as a problem or consulting for them were less so. Reporting severe pain was at least as strongly associated with 'problem' periods as very heavy periods and severe pain affected many more women than very heavy periods. Yet the prevailing clinical preoccupation appears to be with heavy periods rather than assessing menstrual symptoms more broadly. Although exclusion of serious disease is clearly important, the emphasis should be on clarifying presenting symptoms and offering appropriate help and advice. The emphasis on self-care and informal information-seeking, together with the sometimes limited knowledge of treatments available, suggests the need for greater communication with women, both through dissemination of health education materials and through the popular media.

Introduction

I knew I wanted to be a GP before entering medical school. I had never liked hospitals and disliked them increasingly during an extremely traditional medical education. I enjoyed two brief general practice attachments but spent the remainder of my time at medical school doing as little medicine and as much other things as possible. So it wasn't until I became a GP registrar that I really began to think in any depth about what I was doing and why. This led to my becoming very interested in research and this is something which has remained with me ever since. I hope eventually to help strengthen general practice care through contributing to its academic base and, with this end in mind, applied for a MRC health services research fellowship. My supervisors had interests in heavy menstrual bleeding and in the lay management of illness and I decided that the intersection between these was something I was interested in too.

Actually, although I had never really engaged to any great extent with research ideas prior to entering general practice, I had pondered about heavy menstrual bleeding over the course of six miserable months spent as a senior house officer in obstetrics and gynaecology, both through contact with patients and through the experiences of myself and colleagues. Over the course of the six months it became apparent that, of the seven female senior house officers and registrars in the department, six of us were on medication that altered our periods (two mefenamic acid, two combined oral contraceptive, one tranexamic acid and one levonorgestrel-releasing IUCD) and the

seventh was pregnant. This raised several questions in my mind. Did we all have terrible periods due to the stress of working horrendous hours in a ghastly environment? Or, did most women actually have menstrual symptoms to the same extent as us? If so, would they all be taking the same medications as we were if they were as familiar with the options available? In other words, if all women saw periods in as medicalised a way as we did, would they all be taking medication and would that be a good or a bad thing? So questions were raised for me about the epidemiology of menstrual symptoms, women's experiences of periods and how they judge them as a problem or not, and how they manage menstrual problems.

Questions about why some people consult over seemingly minor symptoms while others put off seeking help for serious problems have received considerable research attention. One reason for this interest has been to try to influence the demand for health services. Another is the hope that a better understanding of decisions to consult will lead to patients' concerns being better met in the consultation, more appropriate treatment and improved health outcomes.

There is particular concern that women do not receive appropriate management for heavy menstrual bleeding. Over a third of women who consult a GP in the UK about heavy periods are referred to secondary care within a year (Coulter et al, 1994) and, of those referred, 60% receive a hysterectomy within five years (Coulter et al. 1991). Overall, approximately 20% of women in the UK have undergone hysterectomy by

the age of 55 (Vessey et al, 1992). Concern has been raised that this may not always be a necessary treatment, particularly as it is associated with considerable morbidity and a risk of operative mortality of between 0.4 and 2 per 1000 women (Coulter et al. 1995a). There is wide geographical variation in hysterectomy rates and one of the determinants of this has been shown to be general practice referral rates (Coulter et al, 1988).

One response to these concerns has been a suggestion that many women with heavy periods would benefit from reassurance and counselling alone as first-line treatment (Coulter et al 1995a; Royal College of Obstetricians & Gynaecologists, 1998). However, there is little evidence to support reassurance and counselling as a management strategy for heavy menstrual bleeding. It is, furthermore, unclear what such reassurance and counselling should consist of in the absence of a clear understanding of how women experience periods, how they judge them to be heavy or problematic and how they make decisions about managing them.

Although there is very little evidence to support reassurance and counselling, there is research suggesting the importance of information provision and discussion of this in influencing treatment decisions about heavy menstrual bleeding. One study carried out in secondary care found that providing information followed by a 30 minute structured interview to elicit patient views and preferences resulted in a lower proportion proceeding to surgery but with no change in a range of other measures

including health status and women's satisfaction with treatment. (Kennedy et al, 2003). (Treatment choices included medication taken during the period such as tranexamic acid or non-steroidal anti-inflammatory drugs (NSAIDs), contraceptive options such as the combined pill or the levonorgestrel-releasing IUCD, and surgery including hysterectomy and newer less invasive surgical procedures such as endometrial ablation.) This study suggests that certain ways of communicating with women with heavy menstrual bleeding, in addition to information provision, can influence their treatment decisions, at least amongst the subgroup who are referred.

Some previous research provides indications of why women consult with heavy menstrual bleeding. Two studies have been carried out amongst attenders in primary care to investigate reasons for consulting with heavy menstrual bleeding. O'Flynn and Britten (2000) undertook qualitative interviews with 21 women who had consulted for menorrhagia. They found that seeking an explanation for changes in menstrual symptoms was important to women and that volume of blood loss was less important to them than how they felt in terms of tiredness, inconvenience, pain and impact on everyday life. Coulter et al (1994) carried out a questionnaire survey of women who had consulted a GP for menorrhagia. They found that, although concern about health risks may be a trigger for consultation, most women consulted their GP due to the impact of menstrual symptoms on their everyday life, particularly work and family.

Although the above studies suggest that overall impact of a range of symptoms is a major concern to women, there is evidence that doctors are more likely to view volume of loss as the main concern. Warner et al (2001a) showed that, amongst women referred to secondary care for menstrual problems, heavy loss was by far the most common reason for referral although it was not cited as a problem by women any more than menstrual pain or cycle-related changes.

The only population-based study of help-seeking about period problems was a diary study and interviews amongst 79 women carried out by Scambler and Scambler (1993). The 63% of participants who had not consulted their GP for menstrual problems in the previous year were divided into: women who had relatively low impact of symptoms on everyday life; those who did not feel that medicine would be able to help; and women who did not think of menstruation as an illness but experienced a high level of symptom distress. Although this goes some way towards explaining why some women do not consult, there remains little information about the process of becoming a 'consulter' and what the aspirations are of women who do consult.

Although we approached this study with an interest in why women consult for heavy periods, previous estimates that approximately a third of women report heavy periods while only 5% consult annually, suggests that many of those affected do not consult. Most symptoms or illness episodes in general are dealt with in the home without

seeking professional advice (Rogers et al, 1999). It is possible that self-care may be still more important amongst women with heavy menstrual bleeding. We chose to explore self-care for heavy menstrual bleeding in order to better understand the context of decision-making about help-seeking and to find out what else women were doing in order to manage menstrual problems themselves.

We viewed women's perception of periods as a problem as an essential first step in conceptualising consulting or self-care for a symptom as common as heavy menstrual bleeding. We therefore chose to explicitly address perception of periods as a problem in the design of this study. As we had chosen to study a community sample of women, this put us in a unique position to further the epidemiology of heavy menstrual bleeding which, as will be shown in chapter two, is relatively sparse. An understanding of the epidemiology of heavy menstrual bleeding is necessary in order to understand the overall health burden of this condition, its associations and possible determinants, as well as providing a context in which to better understand self-care and help-seeking. Our overall aims and research questions, therefore, were:

1. To ascertain the prevalence of heavy menstrual bleeding and reporting periods as a problem in the community and their associations with socio-demographic and other non-menstrual health factors.

How common are self-reported heavy menstrual bleeding, menstrual co-morbidity and 'problem' periods? Who reports them (in terms of age, parity, and socio-economic status)?

2. To model reporting of 'problem' periods and consulting in terms of menstrual symptoms, socio-demographic and other non-menstrual health factors.

   Who reports 'problem' periods (in terms of age, parity, and socio-economic status)?

3. To explore perceptions of periods as heavy or a problem and investigate self-care, informal and formal help-seeking amongst women with heavy menstrual bleeding.

   How do women decide whether their periods are 'heavy' or a 'problem'? What do women do to deal with heavy menstrual bleeding in terms of self-care, speaking to others and formal consulting? How are decisions made about these actions?

In order to address these questions and to provide me with a training in a range of health services research methods, we carried out a large questionnaire survey, sampling through general practice lists, with a second more detailed questionnaire sent to women who reported their periods as heavy. A third follow-up questionnaire was sent six months later in order to enquire after help-seeking and changes in symptoms in the interim. Qualitative interviews were carried out with a subset of the

women who reported their periods as heavy, to explore how periods were judged as 'heavy' or 'a problem' and to discuss decision-making about how to deal with these symptoms.

The focus of this study was on heavy menstrual bleeding but we were aware from existing literature that other menstrual symptoms play a role in help-seeking for heavy menstrual bleeding. Hence, although the focus of the study is on heavy menstrual bleeding, this necessarily includes addressing menstrual co-morbidity if the perception of periods as problematic and consulting about this is to be understood.

I chose the term 'heavy menstrual bleeding' in the title of this thesis as this was a community-based study, carried out amongst women who may never have consulted about periods and did not necessarily view them as a problem. Therefore, the term 'heavy menstrual bleeding' seemed more appropriate than the more medical 'menorrhagia', which could be taken to imply a diagnosis, or 'subjective menorrhagia complaint' where the term 'complaint' implies help-seeking. Issues around definitions and terminology in menstrual research will be considered further in chapter two.

This thesis draws on two main bodies of literature. Chapter one provides an overview of the considerable literature on health, symptoms, illness and health behaviour

around these, especially help-seeking and self-care. Chapter two examines the more limited literature available, firstly on the epidemiology of heavy menstrual bleeding and secondly on help-seeking and self-care for heavy menstrual bleeding or menstrual problems in general. Chapter three sets out the rationale for our study design and provides details of the methods used to carry this out. The three data chapters that follow each include both quantitative and qualitative findings. Chapter four presents quantitative data on the epidemiology of self-reported heavy menstrual bleeding and 'problem' periods before examining what factors are associated with reporting periods as a problem. Qualitative data are then presented exploring how women used the terms 'heavy' or 'problem' periods. Chapter five presents descriptive quantitative data on self-care and informal consulting around menstrual problems. Qualitative data are used to explore how women spoke about these, and benefits and barriers to informal discussions. Chapter six examines quantitative data on consulting a doctor regarding menstrual problems, its prevalence and associations with symptoms and other variables. Qualitative data will then be used to investigate decision-making around consulting for periods, including reasons given for seeking help and for not seeking help. The chapter closes with a consideration of whether women viewed periods as illness or not and how this related to help-seeking. Some discussion of findings with respect to existing literature will also be found within data chapters four, five and six and is addressed in the relevant chapters to prevent the closing chapter from becoming too cumbersome. The final discussion chapter examines strengths and weaknesses of the study and will then integrate and extend the discussion that has been undertaken in the earlier chapters, drawing together themes arising throughout the thesis.

Chapter one

Review of the literature on help-seeking and self-care

This chapter presents an overview of a broad literature on self-care and help-seeking and in summarising I have drawn on comprehensive reviews in this field (Campbell and Roland 1996; Rogers et al, 1999) as well as on original literature. I first consider the concepts of health, symptoms, illness and disease before discussing the main themes in the health behaviour literature, focusing especially on self-care, lay consulting and formal help-seeking. I conclude the chapter with a consideration of the aspects of this literature that are particularly relevant to this research.

1.1 What are health, symptoms, illness and disease?

The distinction between disease and illness has been described by Helman (1981). For him, diseases are, "The named pathological entities that make up the medical model of ill health," and illness, "Refers to the subjective response of the patient to being unwell," (Helman, 1981:548). It is clearly the latter that concerns us in exploring women's experiences and responses to heavy menstrual bleeding.

Dingwall (1976) carried out a review of sociological thinking in relation to health and illness. He found that illness is commonly viewed as the absence of health, and health is commonly viewed as the absence of illness, such that these definitions are tautological. However, he found the definition of health as, "A state of complete physical, mental and social well-being and not merely the absence of disease or

infirmity," (WHO, 1946) still less useful as most people would struggle to conceive the meaning of a state of complete well-being. He concluded that it is still intuitive to think of illness as a departure from some sort of healthy 'normality', despite the circularity of the issues:

> *"Given the unobtrusiveness of what is normal, by virtue of its very normality, the unusual may be easier to identify. But it is recognisable only as a result of our trading on tacit and unexamined knowledge about normality."*
>
> (Dingwall, 1976:62, original emphasis)

Thus, for Dingwall, illness can only be defined by a knowledge of the typical ways of experiencing one's own body or of observing the bodies of others. He cites the example of fever; that in order to be able to interpret whether or not a temperature is abnormal, one needs to know what constitutes the range of normality. Dingwall also argued that these assessments of bodily experience are a social process in that family, friends, neighbours, or colleagues play a part in the decision-making process.

Leder (1990) and Calnan (1994) argue that 'health' is usually a taken-for-granted feature of everyday life, and may not be a significant issue until ill health occurs. It is this 'absence' of bodily concerns which constitute 'health' and once this bodily consciousness intrudes on daily life, interpretations of symptoms or illness may ensue (Leder, 1990).

Other researchers have found that respondents emphasised the role of work in the experience and definition of illness. In a society where people are often defined by their work (or other commitments such as caring for family), illness can be defined as not being able to fulfil usual roles. Herzlich and Pierret (1987) interviewed 80 men and women in urban and rural France and concluded that respondents conceived of illness as inactivity and that, "By enforcing inactivity, illness thus prevents individuals from 'playing their role', marginalises them, and can even provoke a feeling of loss of identity," (Herzlich and Pierret,1973:178).

While health and illness can be difficult to define, symptoms are more readily pinned down. Medical texts, for instance, define symptoms as, "Manifestations of the target disorder that [patients] themselves perceive, either spontaneously or upon questioning" (Sackett et al, 1991:3). (The authors use the term 'target disorder' instead of 'disease' citing a lack of agreement regarding whether many common problems such as hypertension, hay fever or haemorrhoids are diseases). Social researchers have been cautious of the term 'symptom' because of this link with disease or disorder. Locker, in his book 'Symptoms and Illness' (1981) declines to use the word 'symptom', as, in line with medical texts, he believes these are only constituted as symptoms when they are interpreted as indicators of underlying disorder. Locker interviewed six women repeatedly over the course of a year about their health and their families' health and, instead of writing about 'symptoms', chose

to focus on 'problematic experience,' defined as, "Events, situations, or states of affairs which disturb the taken-for-granted attitude towards the world and call for interpretive and explanatory activity," (Locker, 1981:49). Locker refers to problematic experiences that give rise to interpretive activity as 'cues' which can be symptomatological, behavioural, or communicative. Symptomatological cues involve changes in physical or psychological states that are experienced by the individual concerned or observed in another, for instance a change in the way one feels or some change in external appearance. Behavioural cues refer to observed changes in behaviour or conduct on the part of another, and communicative cues consist of claims made by an individual to others, for instance about pain or emotional states. In this terminology, heavy periods would be termed 'problematic experience', although it is possible that some women may experience heavy periods without viewing them as problematic at all. If an attempt at interpreting the 'problematic experience' of heavy periods was made then they could be termed a 'symptomatological cue'. However, in this thesis I shall use the word 'symptom' as this seems less cumbersome, although I am not using this term in the strictly medical sense to denote something necessarily representative of underlying disorder.

Locker (1981) described how illness-relevant behaviours were used in the construction of definitions of illness ("I had to take to my bed") and health ("I'm never at the doctor"). This suggests a link between the ability to 'cope' with

symptoms in everyday life and interpretations of bodily experience as illness or not. Locker highlights that adopting illness actions such as staying in bed, not going to work, or consulting a doctor can therefore take on a moral dimension:

> *"Because actions of this kind may be motivated by a desire for the benefits they involve, a definition of illness assumes and may only be applied where [these actions] are seen to be the unavoidable outcome of some underlying disorder or the subjective experiences to which it gives rise. Where no underlying disorder can be identified, or where its presence is ambiguous, the alternative formulations such as malingering may be considered... Consequently, illness is essentially a moral category; it always involves judgements about the extent to which an individual has personal control over his actions."*
>
> (Locker, 1981:179)

Locker comments that adverse moral judgements about illness behaviour are particularly likely to occur in the case of mental illness or other subjective states where there is no external manifestation of disorder other than the claims of the sufferer. Locker found a further moral dimension to illness behaviour by demonstrating that social competence (particularly competence in motherhood in his study) meant using common understandings about health and illness to display adequate performance in health management of the self or immediate family.

The moral dimensions of illness were also highlighted by Blaxter and Paterson (1982), in their interview study amongst working class women in Aberdeen. They found that, "Few would describe themselves as anything but healthy if it were at all

possible to sustain the definition with any credibility," (Blaxter and Paterson, 1982:32). In exploring reasons for this they considered that illness was not so much the experience of symptoms, as the reaction to them. The emphasis on 'not lying down to it' by adopting the sick role meant that illness itself had a strong moral dimension.

Bury (1997) writes about the importance of dealing with bodily matters successfully in order to achieve 'cultural competence' or 'agency', particularly in chronic illness. He highlights that 'coping' carries a moral implication, that the term has a normative character, associated with 'successful' and 'unsuccessful' responses to chronic illness and disability. He prefers the term 'strategy', as a way of referring to the set of actions, developed over time, to deal with bodily limitations taking into account social circumstances, responsibilities and resources but with less moral implications than 'coping'.

A related aspect of successful 'coping' is the imperative of maintaining bodily control and boundaries. Turner (1992) draws on Douglas (1966) to link the presentation of self, competent bodily boundaries and bodily functions with fears of 'pollution' or 'matter out of place'. Featherstone et al (1991) describe this link between loss of bodily control and loss of social acceptability as a feature of old age. Similarly, Mitteness and Barker (1995), in qualitative studies amongst elderly

people, found a link between urinary incontinence and perceptions of incompetence such that individuals felt forced to adopt concealment strategies so as not to compromise their competence in the eyes of others. Britton (1998) found a similar imperative amongst breastfeeding mothers for concealing leaking breast milk whilst Lupton (1998) found that expressing excessive emotion, especially dissolving into tears, could be viewed as providing discreditable evidence of a 'leaky' body. Thus maintaining bodily boundaries and preventing leakage of any bodily fluids can be viewed as central to the presentation of the self as a competent adult. In an anthropological account of menstruation, Britton (1996) summarised findings from research in other cultures and carried out a qualitative study amongst 20 women aged 18 to 39 in the UK. In her literature review she found that the concept of menstrual blood as polluting was widespread in many cultures and was used as a matter for secrecy or separation. In her interview data she found notions of menstrual blood as polluting, but this was a less strong theme than the emphasis on secrecy or concealing menstruation from others, particularly men, often including men within the immediate family. She suggests in her discussion that in British society women may feel the only opportunity they have for seclusion in relation to menstruation is to use the discourse of sickness.

1.2 'Health problems which are not an illness'

Not all bodily experiences or changes are interpreted as illness. Cornwell's (Cornwell, 1984) qualitative investigation into how people viewed health and illness found that participants described three types of illness: (1) 'normal' illness, such as childhood infectious illnesses; (2) 'real' illness, such as cancer or heart disease; and (3) 'health problems which are not an illness', such as problems associated with ageing and the reproductive cycle. She found that 'health problems which are not an illness' were not generally thought to be amenable to medical treatments, were viewed as less legitimate than 'real' or 'normal' illness and that self-treatment might be advocated. Cornwell's treatment of this category is relatively brief but she does write that such conditions may be viewed as problematic, "If the person is unable to establish the legitimacy of his/her condition (i.e. category three) then the moral status of the condition itself remains problematic and the effort to prove that one is not responsible is that much greater," (Cornwell, 1984:131). She gives an example where an interviewee refers to an acquaintance's complaints about the menopause; "This was something that happened to all women and she saw no reason for Carol to think that it was worse for her than it was for anyone else," (Cornwell, 1984:133).

Locker developed a similar categorisation with the equivalent category termed 'normal illness,' or, "disorders which are taken to be part of the routine experience of everyday life," (Locker, 1981:90). The examples he gives are of ageing, childhood

illnesses, and complaints such as 'always had bowel problems'. He does not mention the questionable moral status of 'normal illness' specifically, but the extract presented earlier (page 27) implies that if the nature of the underlying disorder is ambiguous, for instance if its presence rests solely on the claims of the sufferer, then negative judgements may be made about adopting illness behaviour.

I have considered these two relatively brief descriptions of 'health problems which are not an illness' or 'normal illness' in as much detail as is available from the original texts. The concept seems particularly relevant to heavy menstrual bleeding; a commonly experienced symptom associated with the reproductive cycle and not generally life-threatening.

Although, to my knowledge, there are no other formal considerations of the concept of 'health problems which are not an illness', others have written about conditions where social circumstances may influence sufferers' perceptions of normality. For example, the elderly might not define some changes in body functioning as problematic because of an expectation of poor health in old age (Calnan, 1987). Similarly, people living in poor social circumstances may have a higher threshold for interpreting symptoms as illness because of an expectation of poor health (Blaxter, and Paterson, 1982).

1.3 Health behaviour

Health behaviour and illness behaviour were defined by Kasl and Cobb:

> *"Health behaviour is any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in a symptomatic stage. Illness behaviour is any activity, undertaken by a person who feels ill, to define the state of his health and to discover a suitable remedy."*
>
> (Kasl and Cobb, 1966:246)

I find these definitions difficult to apply in the current study as they do not account for actions taken for symptoms that may not necessarily be viewed as either prevention of disease or remedying illness. Rather than develop a tripartite definition of 'health behaviour', 'symptom behaviour' and 'illness behaviour', I am going to refer to all three as 'health behaviour'. Health behaviour then incorporates all actions related to health, symptoms, illness or disease, including self-care, asking opinions and advice from others in one's social network and help-seeking from professionals.

1.3.1 What is self-care?

Dean (1986) offered the following definition of self-care:

> *"Self-care in illness is the range of individual behaviour involved in symptom recognition and evaluation, and in decisions regarding symptom responses, including decisions to do nothing about symptoms, to treat the symptoms by self-determined actions or to seek advice regarding treatment. Self-care thus includes consultation in the lay, professional and alternative care networks as well as evaluation of and decisions regarding action based on the advice obtained in consultation."*
>
> (Dean, 1986:276)

This is a useful definition in reflecting a holistic view of self-care in which the various health related actions are viewed as a continuum. It confronts the tendency to view self-care as an alternative to help-seeking whereas, in reality, the two are closely linked and difficult to separate. For instance, health actions taken as a result of professional advice can be seen either as self-care or results of help-seeking. Incorporating self-determined actions, lay care and formal help-seeking within one definition, however, makes it difficult to examine their different aspects. Rogers et al (1999) defined self-care as:

> *"Changes in daily activities because of an illness or injury (i.e. staying at home from work or school, staying in bed, changing diet/eating habits, using an aid or appliance) or taking non-prescribed remedies/medicines (i.e. home remedies, herbal products, homoeopathic medicines and over-the-counter medicines)."*
>
> (Rogers et al, 1999:102)

Rogers et al make a distinction between lay (or informal) care and self-care in that lay care is non-formal care by others and self-care is care by the individual concerned alone. In this thesis I will use these three terms: self-care, lay or informal consulting and formal consulting, or consulting a professional, while recognising Dean's concern that these show considerable overlap and are not independent activities.

Within her conceptualisation of self-care, Dean (1986) describes four possible responses to symptoms. These can be carried out in any order or may take place simultaneously:

1. do nothing ('watchful waiting' or observing how symptoms develop);
2. self-medication;
3. non-medication self-treatment;
4. decisions to consult professional providers

In an exploration of decision-making around self-care and help-seeking, Rogers et al (1999) carried out a household interview with 215 households and four-week health diaries were completed by individuals within these households. Study participants were asked to record all self-care and formal or informal discussions about symptom episodes. About 250 people recorded a total of just over 500 illness episodes, a third of which were 'colds' or 'flu'. They found that 24% of illness episodes led to no health action, 54% to self-care activities only, 17% to self-care in combination with professional health care, and 5% to professional health care only. Therefore, where professional care was sought it was almost always *in addition* to self-care measures.

'Doing nothing' can imply a number of different approaches including unwise neglect of symptoms or wise coping strategy. In the qualitative part of their study, Rogers et al (1999) found that a fatalistic acceptance of symptoms perceived to be related to old age, was sometimes given as a reason for doing nothing in response to symptoms. Furthermore, this could also occur as a result of people having learnt the limitations of services. Rogers et al noted that non-action, "Was sometimes reinforced by the fatalism of contact with health professionals, who may attempt to normalise illness in an attempt to reassure patients," (Rogers et al, 1999:131).

Rogers et al (1999) also found self-medication in response to symptoms to be the most common response to symptoms. They found that interactions with health professionals can have a promoting or a retarding influence on self-medication, depending on whether patients perceived their use to be approved by health professionals or not. In addition to over-the-counter medications, people have been found to retain prescription medication for future use (Dean, 1986).

Non-medication self-care includes the range of other self-care activities undertaken, such as hot drinks, or the avoidance of certain activities. Dean (1986) points out that, although resting or work absence in illness are often used as an indicator of need for services, they can alternatively be conceptualised as a self-care response. Furthermore, it is a self-care response which is particularly affected by situational

constraints. She found, for instance, that housewives, unskilled workers and the self-employed more often maintained normal routines during acute illness such as influenza.

Verbrugge and Acione (1987) asked a population-based sample of adults (aged 18 or over) to keep health diaries recording all symptoms for six weeks. They looked at the frequency of reporting different symptoms, actions taken regarding symptoms and factors associated with taking different actions. The most commonly reported symptoms were respiratory (mainly colds) and musculoskeletal symptoms (mainly arthritis, injury and over-exertion). The most popular action for symptoms was the use of medications, followed by lay consulting, then restricted activity and lastly seeking medical care. Restricted activities included cutting down on 'chores and errands', and reducing other planned activities, with relatively few reports of actually staying in bed.

When looking at decisions to take actions, Verbrugge and Acione (1987) found an interesting difference between respiratory and musculoskeletal symptoms which they judged as reflecting a difference in approach to acute as opposed to chronic conditions. The main predictors for action in response to respiratory symptoms were severity of symptoms whereas personal characteristics such as socio-economic status, age, gender and chronic health status, were less important. However, for

musculoskeletal symptoms, personal characteristics were very important in influencing actions taken whereas severity of symptoms were less important. The authors suggest that these results reflect basic differences in how people approach acute and chronic health problems. They conclude that, for acute problems, decisions about care are made in the short run and depend mostly on symptoms. Dean (1986) describes all self-care responses to illness as a 'synthesis of learning and experience' and as being highly culturally patterned and varying between generations. However, for chronic conditions it seems that people develop their strategies of care still further over months and years and apply them during flare-ups. This concurs with Bury's (1997) emphasis on developing strategies over time for dealing with chronic illness.

1.3.2 What is lay consulting?

Obtaining health advice and opinions from others in one's social circle is frequently referred to as 'lay consulting' in order to access 'lay care' or 'lay knowledge'. Some have argued that the term 'lay knowledge', suggests a false dichotomy between lay and professional bodies of knowledge, which actually draw on each other and are closely interrelated (Rogers et al, 1999). Cornwell (1984) preferred instead to use the term 'common sense' ideas or theories about health and illness. Rogers et al refer instead to, "The meaning and judgements people make about illness," (Rogers et al, 1999:80). I shall avoid the term 'lay knowledge' while continuing to use the term 'lay consulting' to refer to discussions of health-related matters with non-professionals.

Several studies have shown the high number of lay consultations generally undertaken before consulting formal health care services. Scambler and Scambler (Scambler and Scambler, 1985; 1993; 1984) carried out a six week diary study amongst 79 women aged 16 to 44. They found that symptoms were recorded in one day out of three and that an average of 11 lay consultations were recorded for every one medical consultation. Interviews were conducted on completion of the health diaries revealing three main types of lay consultations; casual, enquiring and confirmatory:

> *"Casual consultations were nothing more than items buried in everyday conversation, unplanned and largely without significance for future action... Enquiring consultations were quests for information or advice, frequently tapping the known experience of others; these were almost exclusively with other women. Confirmatory consultations amounted to requests for support, often in relation to decisions already made."*
>
> (Scambler and Scambler, 1993:48)

Zola (1973), similarly, has described the confirmation from lay others about decisions to attend for professional consultation as 'sanctioning'.

Blaxter and Paterson (1982) also found widespread reports of lay consulting in their interviews about health, self-care, lay and formal consulting. Mothers in particular described seeking advice from sisters, other female relatives, other mothers, friends

or neighbours, especially those who had some nursing training, were older or seen as experienced. This consulting of people thought to have a special knowledge is a further illustration of the blurred boundaries between lay care and formal help-seeking. Blaxter and Paterson showed that, although most people sought advice from a lay network, a substantial minority said they never asked advice of anyone before consulting a doctor, showing that this is by no means a universal activity.

Rogers et al (1999) suggested that lay care is not equitably distributed; firstly because it is dependent on reciprocity and those with the greatest need may be less able to reciprocate and, secondly, because middle class respondents are more likely to have access to individuals with particular health knowledge through their social networks. They found that lay care was dependent on the type of relationship, for instance material assistance was more likely to be sought from family members than from friends, although friends could be sources of information and emotional support. They also showed that the influence of others acted over a long timescale, that information was 'stored' or remembered until it became relevant, thus building up a body of knowledge.

Rogers et al (1999) found some evidence that the nature of symptoms influenced the degree of importance attached to the lay network. They found, for instance, that people were less likely to consult within their social network for psychological

conditions or where problems were seen as personal in some other way. In chronic conditions they found an increased self-reliance in decision-making regarding consulting. They cite the example of a man with a long history of angina who felt he knew his own symptoms sufficiently well as to make consulting lay others unnecessary such that he would consult the doctor directly if concerned about his health.

Rogers et al (1999) summarised the functions of lay networks as:

1. Providing emotional and material support, services and information;
2. Transmitting norms and values about help-seeking;
3. Screening symptomatic experience and providing informal referral systems to professional services.

1.3.3 Why do people consult a doctor?

Rogers et al (1999) identify five types of models of help-seeking: (1) the 'symptom iceberg' or epidemiological model; (2) socio-psychological models such as the Health Belief Model; (3) rational choice or economic models; (4) socio-behavioural, organisational or socio-political models; (5) social process models such as those

focusing on the process of decision-making and lay action. They point out that there is some degree of overlap between these models.

(1) Symptom iceberg (epidemiological) models

Several studies have shown that individuals are rarely asymptomatic and that only a small proportion of symptoms are presented to health care services (Hannay, 1979; Wadsworth et al, 1971). This type of research led to the idea of the 'symptom iceberg' (Hannay, 1979), where symptoms presented to clinicians are viewed as the tip of an iceberg while the remainder are managed by individuals, either alone or with help from others in their social circle. Wadsworth (1971) found that 95% of their sample had experienced symptoms over the previous two weeks but only 20% had sought medical help of some sort, with 12% attending their family doctor. Scambler and Scambler's diary study (1984) showed that consultation rates varied substantially by reported symptom. For instance, 1 in 60 episodes of headache compared to 1 in 9 episodes of sore throats resulted in consultation. Overall, 1 in 18 symptom episodes led to consultation with 1 in 10 'women's complaints such as period pain' being presented to a doctor. Ingham and Millar (1986) and Wyke et al (1990) showed that symptom severity was the strongest influence on likelihood of consulting in acute illness, with those consulting generally experiencing more severe symptoms than those who do not. Others have shown that, while many unreported health problems are relatively minor, there is some evidence to show that more

serious symptoms remain unreported (Hannay, 1979). Co-morbidity has also been found to be an important factor in symptom reporting, particularly psychological morbidity (Barsky et al, 1986).

The influence of the idea of the 'symptom iceberg' has been enormous and raises many questions about the step from experiencing symptoms to consulting about symptoms. However, critics have commented that, despite attempts to broaden the perspective of this approach, symptom-based models have led to a limited understanding of the use of services, particularly for consultations concerned with chronic, uncertain or 'illegitimate' complaints. Rogers et al (1999) point out that the 'symptom iceberg' model does not consider the way in which symptoms such as chronic fatigue or repetitive strain injury are interpreted and given meaning, for instance by being compared with previous experience or through discussions with others. This may also be relevant in heavy menstrual bleeding where previous research has suggested uncertainty amongst women in interpreting what amount of loss is normal (O'Flynn and Britten, 2000).

(2) Socio-psychological models such as the Health Belief Model

The Health Belief Model (Kasl and Cobb, 1966) was first developed to explain preventative health behaviour but has since been adapted to explain illness behaviour and help-seeking. It takes into account four sets of variables:

1. readiness to take a particular course of action;
2. perceived risks and benefits from uptake of health care;
3. internal and external cues to action (e.g. internal cues like pain or external ones such as interference with everyday life);
4. modifying factors (e.g. gender, age, ethnicity, socio-economic status, personality).

Thus, individuals with a high rate of service use have been shown to perceive themselves to be ill and vulnerable to illness (Blaxter, 1985). Low users of primary care express less anxiety about illness, are less concerned about symptoms, more likely to be critical of doctors, and less convinced of the efficacy and benefits of medical treatments (Egan and Beaton, 1987).

'Locus of control' refers to the degree of internal control relative to external control a person considers he or she has over the cause and course of illness and its outcome. Locus of control research has also been used in the context of the Health Belief Model to suggest that those with an external locus are more likely to be high users of primary care services (Ingham and Miller, 1982). This psychological approach has contributed to the literature on health behaviour by extending the understanding of the way in which psychological factors act on symptomatic experience. However, Rogers et al (1999) comment that, although social factors were included in many studies, psychological approaches, like epidemiological models considered above, underplay the social context of symptoms and lay interpretations of symptoms and illness.

(3) Rational choice or economic models

In health economic models, individuals are viewed as making decisions on the basis of weighing up the costs and benefits of a particular action, such as help-seeking. As such, they have similarities with socio-psychological approaches. Tools such as decision analysis help to illuminate decisions where there are clear risks and benefits, such as for surgery or consulting for an acute illness. One adaptation of this decision-oriented approach has been to develop a view of decision-making as a continuum which ranges from no action through self-care to formal help-seeking. Using this model, Bentzen et al (1989) found that people chose to use the doctor for symptoms

of longer duration and that self-care was used for symptoms of shorter duration. However, some studies have found little evidence of the systematic weighing-up of costs and benefits and that decision-making around minor disorders rotates around a three-stage 'brief and straightforward' process involving the identification that something is wrong, assessment of significance and a decision to act (Calnan and Cant, 1992). On the other hand, Rogers et al (1999) point out that for many illnesses the process will be more complex than a simple balance of advantages and disadvantages, that active decisions about health are not always made for whatever reason, and that rational choice models tend to ignore common human behaviour such as denial, procrastination and other reasons for non-action. In effect, rational choice, health belief and similar models assume a cognitive process of decision-making that does not usually take place.

(4) Socio-behavioural, organisational or socio-political models

Within these models individual characteristics are viewed in the context of organisational and other socio-political aspects of health care systems. Anderson and Newman (1973) used quantitative path analysis to explore differential levels of health care use amongst population sub-groups in the United States. They presented three sets of factors which determine health care utilisation:

1. predisposing characteristics, including socio-demographic characteristics related to service use, health beliefs and beliefs about services;

2. enabling resources, including the ability to respond to health need such as financial and geographic variables relevant to local health care availability;

3. need variables, mainly severity or type of illness but also including psychological aspects such as worry about cause.

The most recent formulation of this model includes a larger number of variables and emphasises the 'dynamic and recursive' nature of the multiple influences on health service use (Anderson, 1995). Outcome, in particular, is incorporated as influencing subsequent predisposing factors, such as health beliefs and perceived need for services, as well as health behaviour.

Rogers et al (1999) describe the limitations of this model: socio-demographic characteristics are acknowledged but they are underdeveloped in empirical work; the model has low power in explaining variance in consulting behaviour; the clear distinction between providers and recipients of care ignores the role of lay care; and the model works less well for primary care or chronic conditions than it does for acute illness referred to secondary care.

(5) Social process models

It has been suggested that the question, "How do people come to feel ill and what do they do about it?" might be a more illuminating starting point than, "Who uses medical services?" (Dingwall, 1976). In social process models the main focus is on the interaction of the patient with others and decision-making is influenced by a wide range of factors often beyond the individual's control. Illness in this model is viewed very much as a social entity (Dingwall, 1976; Locker, 1981; Cornwell, 1984).

Rogers et al (1999) chose to focus on temporal and social aspects of decision-making regarding self-care, lay care and help-seeking, using both qualitative and quantitative methods. They highlighted the complexity of the decision-making process including the overturning of decisions and non-decision-making as well as the reasons for seeking formal help. They also found that study participants referred to both their immediate social context and contacts with others in explaining use of services as well as 'alternative' ideas about health and illness from different sources. Social context and constraints also played a role in the extent to which people were able to contain and cope with signs and symptoms within socially defined situations and contexts.

Zola (1973) argued that many symptoms do not necessarily lead to consulting and it may be that decisions to seek medical aid are based on a break in the accommodation to the symptoms. In this way symptoms can function as a constant and other 'triggers' are relevant in prompting the decision to seek medical aid. He carried out an interview study amongst patients attending medical, ophthalmology or ear, nose and throat out-patient departments in the United States, seeking responses to the question, "Why consult *now*?" He found that patients did not necessarily consult when symptoms were at their worst and that consulting was often triggered by:

1. the occurrence of an interpersonal crisis;
2. perceived interference with social or personal relations;
3. sanctioning (i.e. encouragement to attend by others);
4. perceived interference with vocational or physical activity;
5. temporalising of symptomatology, in other words, that individuals might say they set themselves a time limit after which they had decided to consult for unresolved symptoms.

These triggers could be re-framed as (a) impact (either work, home or personal relationships) (1, 2 and 4 above), (b) discussions with lay others (3 above) (c) duration of symptoms (5 above). Zola concluded that health and illness and responses to them were social phenomena. Although he was writing prior to the

formal development of social process models, his work has been drawn on within this model.

Punamaki and Kokko (1995) drew on Zola's work regarding triggers to further understand consulting in primary care. They were interested in how people construct explanations about illness, believing this to be closely linked with decisions about self-care and help-seeking. They carried out interviews with 127 patients before and after consultations in primary care. The main reasons they found for consultation were impact on work, home and relationships, and concerns about the interpretation of bodily symptoms and duration of symptoms. They found relatively sparse lay consultation which, they suggest, may have been a result of their study setting and population (mainly young people presenting for acute illness out-of-hours).

Pescosolido (1992) developed research into social interaction and social networks in the context of mental health research. She concluded that these provided the mechanism through which individuals learn about, come to understand, and attempt to handle health problems. She argues that the 'individual in social interaction' rather than the individual alone is the most appropriate basic unit of analysis in much decision-making. Pescosolido also argued that the conceptualisation of action as based on a rational choice appears to have limited applicability in that some actions are targeted as 'choices' whereas others are ignored as 'habits'. This would concur

with other qualitative work about decision-making regarding help-seeking, where health actions are viewed as sometimes following particular 'recipes' rather than necessarily involving a new decision-making process each time (Locker, 1981). Indeed, in setting out her view of decision-making around help-seeking Pescosolido draws on multidisciplinary traditions and, in particular, both quantitative and qualitative research within sociology and psychology, whereas the other models presented above largely rest on quantitative work within psychology or economics. She highlights that many of the above models, although originating within one or other discipline, gradually made adjustments to their models through criticisms from other disciplines, yet none are able to fully take account of the importance of social interaction. Pescosolido is writing mainly in the context of mental health service use, where social interaction may be especially crucial to perceptions of symptoms and illness. It may be that in the wide range of illness experience there are some conditions for which social context and interactions are less important, such as acute illness. But where there are questions around whether to interpret symptoms as illness or not, such as heavy menstrual bleeding, social interaction may be expected to play an important role.

1.4 Main health behaviour themes relevant to this research

I have briefly examined the literature on health, illness and symptoms and described the main models which have been used to understand health behaviour. I shall now

draw out in more detail particular themes that are relevant to this research. These include the importance of the 'search for meaning', the impact of symptoms, their social context, past experience of consulting and the effectiveness of self-care in influencing health behaviour.

The need for an explanation for symptoms may be one reason for consulting (Punamaki and Kokko, 1995). Locker (1981) found that this 'search for meaning' could either draw on individuals' own knowledge or develop through discussion with lay others or professionals. Information was sought in order to confirm their own explanations, to decide between alternative explanations or to find an explanation. Blaxter (1983) focused on women talking about the causes of disease rather than illness but found similarly that one of the most notable features of their talk was, "The salience of knowing the cause, the strain towards rational explanation and the importance of linking together life events," (Blaxter, 1983:59). A key feature of consulting is then to seek information to provide meaning, often to confirm or supplement explanations reached by the individual either alone or in consultation with lay others. These findings have been echoed in other studies (Ingham and Miller, 1986; Robinson, 1971).

Locker (1981) comments that 'health problems which are not an illness', such as childhood illnesses or conditions related to ageing, tend to be 'routinised' and that,

"Because they are routine their occurrence does not have to be specially justified," (Locker, 1981:90). In other words, a more limited search for meaning might be embarked upon for such conditions. However, Locker remarks that such 'routinised' conditions give rise to particular difficulties in interpretation if there is any change in the symptoms experienced or observed. He gives examples of trying to decide whether a particular headache is out of the ordinary for a woman who frequently experiences headaches or whether increased vomiting is abnormal in a baby who is a frequent vomiter. Due to the ambiguity in interpreting 'health problems which are not an illness', decisions around appropriate health behaviour may be particularly problematic. Shaw et al (2001) carried out interviews with 31 people with urinary symptoms such as leakage and frequency and found that symptoms were frequently considered a normal part of ageing or childbirth. Insidious onset of symptoms contributed to the normalisation process, for instance with individuals presenting themselves as having 'always had' a weak bladder. The insidious onset of symptoms and link with childbirth are features common to heavy menstrual bleeding and this more limited search for meaning may therefore also be relevant to our study.

Herzlich and Pierret (1987) highlighted the importance of the impact of symptoms on work, home and relationships in defining health and illness. Likewise, the impact of symptoms also influences health behaviour and all models take this into account in some form or other. In Anderson's model (1995), need variables include degree of

bother caused by symptoms, which could be re-interpreted as impact as could external cues to action in the Health Belief Model. Social context plays a role, not just in modifying the impact of symptoms but also in influencing choices regarding self-care, lay consulting or help-seeking. For instance, work or domestic commitments can influence self-care choices, especially rest (Dean, 1986) or limit access to services if other commitments override personal health needs (Calnan, 1987; Rogers et al, 1999). Furthermore, social context can influence the interpretation of symptoms as illness. Families are particularly important in this as patterns of illness behaviour are transmitted from one generation to the next (Campbell and Roland, 1996) with mothers playing an influential role in defining and advising on coping with illness or as role models through learnt experience (Locker, 1981).

Previous experiences of consulting, either by the individual themselves, or by those in their social network have been shown to influence help-seeking. Outcomes of previous consulting were a factor in later quantitative help-seeking models developed by Anderson (1995). Blaxter and Paterson (1982) also found in their qualitative research that past help-seeking experiences created or reinforced the attitude to doctors and concepts of health and illness which influenced further help-seeking. As mentioned earlier, Rogers et al (1999) found in their 'Pathways to care' study that consulting might be influenced by prior experience of the limitations of services.

They also noted that patients learned what was required of them in the consultation from prior experiences of what the doctor considered to be legitimate illness.

Cornwell (1984) suggested that 'health problems which are not an illness' might not generally be viewed as a legitimate reason for consulting and, instead, self-care may be seen as more appropriate. Shaw et al (2001) found that people often did not discuss their urinary symptoms with their GP, either through embarrassment or through not viewing them as a legitimate 'medical problem'. Some people sought help indirectly by 'just mentioning' symptoms whilst attending for regular health checks. Some interpreted the doctor not addressing the issue in these circumstances as an indication that no treatment was available.

Much of the early conceptualisations around health behaviour focused on acute illness (Parsons T 1951). Since then there has been growing emphasis on chronic illness (Bury, 1991), children's illness (Wyke et al, 1990), prevention, screening and the maintenance of health (Calnan, 1987). However, relatively little is known about health behaviour for 'health problems which are not an illness' but it is easy to see how the linked concepts of normalisation of symptoms, lack of legitimacy and the implications of this for consulting might apply to heavy menstrual bleeding.

1.5 Summary

The existing literature suggests that illness can be viewed in a number of ways. Firstly, it can be viewed as a departure from normality, implying that it can only be defined by knowledge of one's own bodily norms or by observations of others. Secondly, illness can be defined in relation to impact on work and other roles. One implication of this is that 'coping', or avoiding adoption of illness behaviours, takes on a moral dimension, particularly if there is no external manifestation of disorder. 'Coping' also takes on a moral dimension in terms of presenting oneself as competent to the outside world and maintaining bodily boundaries. Problems associated with the reproductive cycle may be viewed as 'health problems which are not an illness' leading to a more limited 'search for meaning', questionable legitimacy of adopting illness behaviours such as work absence and a view of the condition as being more appropriate for self-care than help-seeking.

Self-care can be viewed as a continuum incorporating all aspects of actions undertaken by the individual in relation to health. These include non-action, such as observing symptoms, self-medication, non-medication self-care and informal or formal help-seeking. Although there is considerable overlap between these, I use the

term 'self-care' more narrowly to refer to health-related actions which do not involve others, such as adjustment of activities or self-medication. Lay consulting, or obtaining health advice from within the social circle, can include casual remarks embedded within everyday conversation, enquiring after others' opinions or seeking confirmation of decisions, for instance regarding formal help-seeking. Such information can be stored until relevant, building a body of knowledge.

Several different models have been used to investigate why people consult the doctor, which include similar factors such as impact or severity of symptoms, social context, psychological factors and past experience of consulting. I have argued that a social process model drawing on meanings and understandings of symptoms and their social context is relevant to explaining help-seeking for a symptom such as heavy menstrual bleeding which may constitute a 'health problem which is not an illness'. Research within the social process model has highlighted the importance of interpretation of symptoms, their impact, the extent to which people can 'cope' with them and the longitudinal and interactional nature of decision-making around help-seeking.

Chapter two

Review of the literature on heavy menstrual bleeding

2.5 Heavy menstrual bleeding

In this chapter I will outline problems in defining heavy menstrual bleeding and in conceptualising heavy menstrual bleeding and menstrual problems more generally. I will then discuss the epidemiology of heavy menstrual bleeding and existing literature on health behaviour around heavy menstrual bleeding and menstrual problems. Relevant literature was searched for by using 'menorrhagia' and 'menstru*' as title words (limited to 'human') in the Medline database, Cinahl nursing literature database, International Bibliography of Social Science database and Psychinfo. An enormous number of titles were therefore browsed but it was difficult to restrict these through using narrower search terms. All epidemiological studies and all studies relevant to help-seeking and self care were obtained and examined. Secondary care literature was included only where directly relevant to the research questions and, although key anthropological papers about menstruation were read, they are not generally included in the literature here. The literature search was carried out in 2002 and was kept up-to-date during the course of the study through browsing relevant journals, attending relevant conferences and through contact with researchers in the field.

2.5.1 Definitions

Heavy menstrual bleeding is a common problem but it means different things to different people and its definition is beset by differences in 'subjective' and

'objective' judgements. Menorrhagia (Greek for 'monthly rushing out' (Rees, 1993)) is the clinical term traditionally applied to heavy menstrual loss. Some reports have made a distinction between 'objective menorrhagia' (menstrual loss shown to be above a certain cut-off) and 'subjective menorrhagia', ("A complaint of excessive menstrual blood loss occurring over several consecutive cycles in a woman of reproductive age") (Royal College of Obstetricians & Gynaecologists, 1998:11). 'Objective menorrhagia' is widely defined as greater than 80ml total blood loss per menstruation (Coulter et al 1995a). This definition relies on data from a population study of menstrual blood loss measured by alkaline haematin method amongst 476 women aged 15 to 50 in Göteberg, Sweden (Hallberg et al, 1966). They chose 80ml per cycle as the upper limit of normal as it corresponded with an increased frequency of iron deficiency anaemia in women with menstrual blood loss greater than 80ml (although an increased frequency of iron deficiency anaemia was also found amongst those with measured blood loss in the range 61 to 80ml). A measured blood loss of 80ml was also chosen as this corresponded to the 95th centile of the subgroup of 183 women who considered themselves as healthy and having normal menstruation and who had normal haematological indices. (It corresponded to approximately the 90th centile amongst the whole study population and this is the rationale frequently quoted, although not that given in the original study). Subsequent treatment studies have used 60ml, 75ml or 80ml as the cut-off for defining menorrhagia (Coulter et al, 1995a).

A poor correlation between subjective and objective blood loss has been demonstrated repeatedly (Chimbira et al, 1984; Hallberg et al, 1966). Fraser et al (1984) found that, of 69 women with a 'convincing complaint of menorrhagia', only 38% had losses over 80ml, although 59% had losses over 60ml. They found an association between reported heavy periods and measured heavy loss but also found, "Many major errors in perceptions by individuals" (Fraser et al, 1984:788). Although textbooks have sometimes recommended asking about numbers of pads and/or tampons used, Fraser et al found no significant correlation between the number used and the measured menstrual loss. Others have demonstrated the varying absorbency rates of different brands of pads and tampons (Grimes, 1979).

Measurement of blood loss is not generally felt to be practical in routine clinical care and is rarely used outside a research setting (Lethaby and Farquhar, 2003). It is not recommended in the Royal College of Obstetricians and Gynaecologists' Guidelines for the management of menorrhagia (Royal College of Obstetricians & Gynaecologists, 1998). One effect of this is that the decision to proceed to medical management of subjective menorrhagia therefore generally rests on patient request (Royal College of Obstetricians & Gynaecologists, 1998). Another effect is to raise questions about the generalisability of treatment studies where the only reported outcome is measured blood loss. Lethaby and Farquhar (2003) comment that other

outcomes may better reflect clinical improvement, such as quality of life, patient satisfaction, and acceptability of treatments.

Alternatives to measured blood loss have been tried, mainly the Pictorial Blood Loss Assessment chart, which features pictures of sanitary protection with various degrees of staining for respondents to indicate how many of each have been used. However, this has been found to have questionable accuracy in all but those with the heaviest losses (Reid et al, 2000). Indeed, the only investigation recommended for heavy menstrual bleeding by the Royal College of Obstetricians and Gynaecologists' Guidelines is a full blood count to exclude iron deficiency anaemia. Hallberg et al (1966) showed that 66% of women with a measured blood loss of 80ml or more had haematological indices indicative of iron deficiency anaemia. However, anaemia (defined by a haemoglobin of 12g/dl or less) as a screening test for objective menorrhagia shows a sensitivity of only 43% and a specificity of 94% (Janssen, 1997). In other words, a low haemoglobin is a good predictor of objective menorrhagia but a normal haemoglobin by no means excludes it.

Although the Royal College of Obstetricians and Gynaecologists' Guidelines make the common distinction between objective and subjective menorrhagia, they then go on (as others have done (Coulter et al 1995a)) to use the term menorrhagia to refer to both. "Menorrhagia is defined, for the purpose of this guideline, as a complaint of

cyclical heavy menstrual bleeding over several consecutive cycles." (Royal College of Obstetricians & Gynaecologists, 1998:11). Their reasons for combining objective and subjective menorrhagia in this way seem to rest both on the difficulties of measuring blood loss in clinical practice as well as implying that women's accounts should be prioritised, making measurement unnecessary:

> *"The woman's perception of her menstrual blood loss and its effect on her quality of life is the major reason for seeking medical help. The objective measurement of menstrual blood loss, e.g. by the alkaline haematin method, is not performed routinely in clinical practice. Moreover, the objective assessment does not correlate well with the woman's own perception of menstrual blood loss as indicated, for example by length of period or amount of sanitary protection used."*
>
> (Royal College of Obstetricians & Gynaecologists, 1998:11)

McWhinney (1997) writes that, "Symptoms are the patient's description of what he or she perceives to be abnormal sensations. By definition, they are subjective and not open to verification by empirical methods," (McWhinney, 1997:104). 'Subjective menorrhagia' is therefore a symptom while 'objective menorrhagia', in referring only to measured blood loss, is a laboratory finding. Although the inclusion in the Royal College of Obstetricians and Gynaecologists' guidelines of objective and subjective menorrhagia within the overall category of menorrhagia reflects widespread clinical use of the term, this can lead to a lack of clarity in discussing menorrhagia. This excerpt is taken from the introduction of a recent review of the medical management of menorrhagia, and is typical of other reviews of the subject.

> *Excessive menstrual loss, or menorrhagia, is a significant healthcare problem in the developed world. In the United*

> *Kingdom, 5% of women of reproductive age will seek help for this symptom annually; by the end of reproductive life the risk of hysterectomy (primarily for menstrual disorders) is 20%... Objectively, menorrhagia is defined as a menstrual loss of 80 ml per month. Population studies have shown that this amount of loss is present in 10% of the population yet nearly a third of all women consider their menstruation to be excessive [refers to MORI poll]. This symptom thus creates a significant workload for health services.*
>
> (Prentice, 1999:1343)

In this paragraph the status of 'menorrhagia' appears to shift from symptom (reported) to laboratory finding to epidemiological norm then back to symptom again (elicited this time). More recently, the BMJ offered a brief overview ('10 minute consultation') of menorrhagia (Hope, 2000). The introductory vignette presented a woman consulting her GP because she had been found to have a low haemoglobin when attending for blood donation. Menorrhagia in this case would seem to refer to a highly imperfect screening test rather than a symptom, except that in this case no objective measurement was mentioned but the 'problem' defined on the basis of a laboratory finding of anaemia. It calls into question what exactly is being treated, although this is not mentioned in the article. In common with the Royal College of Obstetricians and Gynaecologists' Guidelines, the definition of 'heavy' is unclear and, although it is suggested that practitioners should ask questions about clots and flooding, it is again unclear how replies to these questions should be interpreted.

I will generally avoid the term 'menorrhagia' because of its multiple meanings, except when referring to literature which uses this word. I would prefer to use the term 'heavy menstrual bleeding' to refer to the reported or elicited symptom of excessive menstrual bleeding.

2.5.2 Conceptualising heavy menstrual bleeding

It is unsurprising that reports of heavy periods do not correlate well with objective measurements as the former applies to subjective symptoms and the latter to an epidemiological cut-off. Furthermore, approximately 30% of the relevant population report the symptom of heavy menstrual bleeding whereas the cut-offs used in measured blood loss studies often apply to approximately 10% or less of the population. Psychological attributions have often been offered for the discrepancy between subjective and objective menorrhagia but, before considering this, I shall first present other possible reasons including: that women judge heaviness of menstrual loss with reference to personal norm rather than external criteria (O'Flynn and Britten, 2000); that other menstrual symptoms contribute to the overall impact of heavy periods (Coulter et al, 1994); and that other menstrual symptoms may be reframed as heaviness by consulters due to a perception of selective medical interest in volume of loss (O'Flynn and Britten, 2000; Warner et al, 2001a). However, this tension between subjective and objective menorrhagia remains relevant to how clinicians and researchers approach heavy menstrual bleeding.

There is increasing awareness of the problems in the way heavy menstrual bleeding is currently conceptualised in clinical care (O'Flynn and Britten, 2004; Warner et al 2001a; Warner et al, 2004). O'Flynn and Britten (2004) carried out qualitative interviews amongst 22 primary care professionals (14 GPs, 7 nurses and 1 community gynaecologist) in London. They found that both medical and nursing practitioners found it difficult to define a 'normal' period and did not find gynaecological texts and guidelines helpful in this. When talking about discussing periods in detail, practitioners used terms like 'flooding' and 'clots', while recognising that patients may not understand these terms. Male practitioners were less likely to ask about details of pads and tampons used, justifying this on the basis that they were not a reliable measure of blood loss or not the most important part of a patient's complaint. In the absence of direction from gynaecological texts, practitioners depended on idiosyncratic 'rules of thumb', for instance based on personal experience in the case of female practitioners, or using patients' previous consulting patterns to help judge the seriousness of a patient's complaint amongst some male practitioners. The authors conclude that research is needed to develop models of menstrual disorders that more accurately reflect women's complaints. O'Flynn and Britten (2004) also note that, when asked about their approach to assessing menstrual *disorders* (not heaviness) many practitioners automatically focused on heavy bleeding, referring to the objective definition of over 80ml per period. Much of the current problem with conceptualisation seems to lie with the

enduring notion that treatment should follow a 'diagnostic model' whereby practitioners still hold theoretically to a 'gold standard' of measured menstrual loss, while acknowledging that this is not what occurs in practice. I will turn next to research which offers insights into what might inform alternative conceptualisations of heavy menstrual bleeding.

O'Flynn and Britten (2000) interviewed 21 women in London aged 29 to 57 who had consulted in general practice for heavy menstrual bleeding, excluding those who had attended secondary care. They found that women attached particular importance to how they felt and to their ability to function and rejected the medical emphasis on blood loss evaluation. Women judged heaviness of menstrual loss in terms of change in personal norms rather than with reference to outside criteria. This addresses the essential difference between subjective experiences of heavy bleeding, which can only really be assessed on the basis of personal experience, and objectively measured blood loss, where women do not have the means to compare themselves with population norms.

Coulter et al (1994) highlighted the role of the impact of symptoms on everyday life and co-morbidity in a study of quality of life and patient satisfaction following treatment for menorrhagia. They carried out a questionnaire survey amongst 425 women who had been recruited by their GP following consultation for heavy periods.

Although they achieved a questionnaire response rate of 88%, a validation study revealed that GPs had recruited only 20% of eligible patients and there was some evidence that the recruited patients had more severe symptoms than those not recruited. They found that; 68% of respondents said the heaviness of their periods caused them to be moody or irritable, 50% said their periods caused anxiety or depression, 44% said it spoilt their sex life and 43% said it interfered with life in general. GPs were asked to record whether participants had related symptoms on entering the study. According to the GPs; 22% had 'new associated period pain', 37% had 'pre-menstrual tension' and 49% had 'depression, stress or tiredness'. Therefore, although women were entering the study because of their complaints of heavy bleeding, this was often accompanied by other problems.

Warner et al (2001a) highlighted the complex role of co-morbidity in the process of referrals to gynaecology out-patient clinics in Edinburgh and Glasgow. They found that, of 665 women referred to secondary care for menstrual problems, only 38% reported excessive menstrual loss as a severe problem. However, 60% gave it as their reason for attending the clinic, and 76% of general practitioners gave it as their reason for referral. They concluded that, "Intolerance of the volume of their bleeding is not a key feature among women attending clinics for bleeding problems. Broad menstrual complaint tends to be reframed as excessive bleeding at referral and during management," (Warner et al, 2001a:24). Warner et al (2004) have further shown that

volume of loss is only one of many concerns of women referred with heavy periods and argued that it is of concern that the 80ml cut-off definition for menorrhagia takes so little account of women's experience of 'heavy' periods in their broader sense.

Overall, promising approaches to re-conceptualising heavy menstrual bleeding include recognising that self-reported symptoms relate to concerns over a change in menstrual cycle and to personal norms rather than external measures of volume of loss. The role of menstrual co-morbidity and impact of symptoms on everyday life are also important in how heavy menstrual bleeding is experienced.

2.2.3 Psychological attributions in menstrual research

A frequent suggestion in the literature regarding the mismatch between subjective and objective menorrhagia is that psychological morbidity plays a large role in complaints of menorrhagia and this has received much research interest. The link between psychological 'weakness' and menstrual problems has a long history, its origins lying in Hippocratic and Galenic views of the female body as a flawed and weakened version of the male body. Prior to the Enlightenment, the womb was viewed as a wandering organ, responsible for a variety of ills including mania, melancholy or straining of the mind in excessively ambitious pursuits, later called hysteria (Porter, 1997). Although this belief was superseded by the advent of dissection and the study of anatomy, the medical view that middle and upper class

women were unsuited to engaging in education or work due to their debilitating and erratic menstrual cycle persisted. (This consideration did not seem to extend to women engaged in agricultural or factory work). Strange (2001) argues that this view of menstruation as disability was only challenged in the early twentieth century by female medical practitioners, although they remained tied to a culture of 'menstrual discretion'.

Although menstruation is no longer generally viewed as being so debilitating, the link between psychological factors and menstrual complaints has persisted. As discussed in the previous chapter, psychological factors play a role in the development, interpretation and consulting for symptomatic experience. However, the role of psychological factors in heavy menstrual bleeding does seem to have been overstated at times in gynaecological texts and in menstrual research. Rogers (1950), for instance, described menstrual complaints as a, "Psychic conflict sailing under a gynaecological flag," (Rogers, 1950:322).

Gath et al (1987) carried out a community survey of 521 women aged 35 to 59 and found very heavy periods to be associated with some indices of psychiatric vulnerability, although associations were less strong for excessive menstrual bleeding than for period pain or PMS (pre-menstrual syndrome). The study is flawed, not least in that a very large number of variables were collected and multiple tests

carried out between them, so that it is unsurprising that some associations emerged as significant. The authors did comment that the direction of causality for the associations that they found could not be inferred but concluded nonetheless that, "If a woman presents in the surgery with menstrual complaint it is advisable to look for any associated psychiatric disorder," (Gath et al, 1987:217). An alternative explanation could be that psychological distress is itself a consequence of the pain of dysmenorrhoea or the repeated disruption caused by excessive menstrual blood loss or PMS. Regardless of questions of direction of causality, the association between psychological morbidity and reporting menstrual problems may be due to other causes. The association between reporting symptoms and scoring highly on psychological scales has been shown in a variety of conditions (Kooiker, 1995). Responses may be biased in that subjective symptom reporters are also more likely to score highly on other questionnaire items such as 'negative affectivity' or neuroticism (Watson and Pennebaker, 1989).

Shapley et al (2000) carried out a case-control study amongst women from one general practice in England who were sent a Hospital Anxiety and Depression (HAD) scale, a screening tool for psychological morbidity. Cases were defined as women who presented to a GP or practice nurse with an episode of increased vaginal bleeding in the two years following the completion of the HAD questionnaire and 85 such cases were identified. The authors found no association between psychological

status and subsequent menstrual disturbance, yet concluded that, "GPs [should] consider the impact of psychological status on the presenting symptom of increased vaginal bleeding when considering referral to a specialist," (Shapley et al, 2000:492). This seems a surprising conclusion to draw from a paper that found no significant association between the two.

A subsequent case-control study within the same single practice examined factors associated with consulting amongst 108 women who were consulting with new episodes of 'increased vaginal bleeding' and 835 controls consisting of two groups: consulting controls with 'acute respiratory tract infection' or 'other illness'; and community controls who had not consulted (Shapley, 2002). The study asked women in all groups about menstrual symptoms, including impact variables and psychological disturbance (as measured by a 20-question general health questionnaire (GHQ)). They found that consulting for increased vaginal bleeding was strongly associated with interference in life caused by heavy periods and more weakly associated with perceived heavy periods and psychological disturbance. However, their choice of control groups limits the strength of these findings because they compared consulting for heavy menstrual bleeding with consulters for 'acute respiratory tract infection' combined with 'other illness'. The literature on help-seeking suggests that factors influencing consulting will differ between acute and chronic conditions (Verbrugge and Ascione, 1987). Thus, it is unfortunate that heavy

menstrual bleeding was not compared with 'other illness' alone, excluding those suffering from 'acute respiratory tract infection'. However the category 'other illness' included conditions such as ischaemic heart disease or chronic obstructive pulmonary disease where regular consulting might be expected or encouraged, again making this an inappropriate control group for a commonly experienced symptom such as heavy menstrual bleeding. It seems that the small numbers available as a result of carrying this study out in a single practice meant that the control group was selected on the basis of convenience rather than theory.

Shapley et al (2003) recently examined the temporal relationship between reporting heavy periods and psychological morbidity as measured by GHQ amongst 1513 women in the same single practice (response rate 72%). They found that women reporting higher GHQ at baseline were slightly more likely to report heavy periods six months later (adjusted odds ratio 1.87 (95% CI 1.15 to 3.02)), although not more likely than other women to report that their periods were heavier than usual (adjusted odds ratio 1.09 (95% CI 0.73 to 1.63)). They also measured GHQ at follow-up and found that women reporting heavy periods at baseline were no more likely than others to score highly on GHQ at six months. They conclude, refreshingly, that, "There is little evidence that the relationships between increased vaginal bleeding and psychiatric illness are different to those that exist between psychiatric illness and many other physical symptoms," (Shapley et al, 2003:553).

I have restricted the discussion here to studies carried out in primary care because it has been recognised that attenders in secondary care generally have higher psychological morbidity than those in primary care (Goldberg and Williams, 1988). In summary, there appears to be some link between psychological morbidity and consulting for menstrual problems with a much weaker link between psychological morbidity and reporting menstrual symptoms on questionnaire. Whether this is any different from reporting or consulting for other commonly experienced symptoms is not known.

2.5.4 Reassurance and counselling for heavy menstrual bleeding

Reassurance and counselling have been recommended as the most appropriate initial management strategy for many women who report heavy menstrual bleeding (Coulter et al, 1995b; Royal College of Obstetricians & Gynaecologists, 1998). Although this might well be a useful management strategy in some women, it is interesting to examine the literature underpinning these recommendations. There is no published research on counselling for heavy menstrual bleeding and no suggestion of what this might involve. The recommendation seems to assume that many women attending are suffering from psychological morbidity and that counselling will alleviate this, although the first point is far from proven and there is no evidence whatsoever for the second. Regarding reassurance, the implication seems to be that

many women are worried about their menstrual blood loss, perhaps that it signifies serious disease, and that by informing them that their loss is within normal limits they will stop worrying. Three small studies have addressed the effects of reassurance by following women up and assessing their uptake of treatments. However, none have included a control group to assess the effect of the reassurance compared with usual management, and none provide information about quality of life. Hysterectomy, other surgical techniques and the progesterone-IUCD have all been shown to lead to substantial improvements in quality of life (Hurskainen et al. 2001; Lethaby et al, 2003) and it would be interesting to know how reassurance and counselling compared with these.

Rees (1991) followed up 17 women who had been reassured and discharged from gynaecology after their measured blood loss was found to be less than 60ml. Three years later 14 had 'accepted advice', two were taking mefenamic acid (a non-steroidal anti-inflammatory drug (NSAID) which reduces menstrual blood loss) and one had had a hysterectomy. The finding that the majority had 'accepted advice' might say more about their acceptance of the gynaecologist's decision than about their acceptance of their symptoms. Furthermore, although this is clearly a good outcome if the main priority is limiting gynaecology attendance or treatment, it is impossible to tell whether this is a satisfactory management strategy in the absence of other information, such as quality of life or patient satisfaction measures. In a larger study,

Higham and Reid (1995) followed up 85 women referred to gynaecology for heavy periods whose loss was found to be less than 80ml. Three years later, 28% had undergone hysterectomy or endometrial resection; 18% were taking medical therapies known to affect menstruation; and 19% were menopausal or taking hormone replacement therapy. Again, it is difficult to know how to interpret these findings in the absence of other outcome measures.

Geller et al (1997) followed 52 American women who had been referred for hysterectomy. She conducted interviews prior to their hospital visit, immediately after and again between nine and twelve months later to determine the treatment plan, patient participation in and satisfaction with treatment, symptoms and functional status. Many women chose alternatives to hysterectomy such as medical therapy or other surgical procedures and one third were content to watch and wait (i.e. live with their symptoms). However, there is a lower threshold for referral for hysterectomy in the US compared with the UK and the authors cite unpublished evidence that many women in the US do not receive alternative medical therapies prior to hysterectomy. In the UK it has been found that 77% of women referred to gynaecology for heavy menstrual bleeding received medical treatments prior to referral (Grant et al, 2000).

One large randomised controlled trial has been carried out investigating the effect of a decision aid amongst women referred to secondary care for menorrhagia (Kennedy et al, 2002; 2003). A total of 894 women from six hospitals in England were followed up for two years. Health status, satisfaction with treatment and proportions proceeding to surgery were measured amongst women randomised to three groups: information only; information followed by a research nurse-led 30 minute structured interview eliciting patient views and preferences; and a control group who received usual care. Most measures showed no difference between groups but women who received information followed by a structured interview had a lower subsequent rate of surgery than those in the other two groups. One possible criticism of this study is that women were not blind to randomisation so those who knew they were to be interviewed may have read their information booklet more thoroughly than others. However, this study still suggests that certain ways of communicating with women with heavy menstrual bleeding, in addition to information provision, can influence their treatment decisions, at least amongst the subgroup who are referred.

I have discussed definitions of heavy menstrual bleeding, current problems with its conceptualisation and existing literature on communicating with women about heavy menstrual bleeding, namely decision aids and reassurance and counselling. I shall now examine the literature on the epidemiology of heavy menstrual bleeding before

closing this chapter with an exploration of existing research on self-care and help-seeking for heavy menstrual bleeding.

2.6 Epidemiology of heavy menstrual bleeding

This thesis mainly concerns self-reported heavy menstrual bleeding and it is the epidemiology of this symptom that I will focus on here. I will draw on research focusing on measured menstrual blood loss only where there is no evidence on the epidemiology of self-reported menstrual symptoms. I will first describe what is known about the community prevalence of heavy menstrual bleeding and other menstrual symptoms then go on to explore what is known of their associations with other factors, such as age, parity, socio-economic status and contraception.

2.6.1 Community studies regarding prevalence of heavy menstrual bleeding

The most detailed UK-based community survey of menstrual problems to date was a national survey of 1069 women aged 16 to 45 carried out by MORI (Market Opinion Research International) on behalf of Parke-Davies Pharmaceutical Company (Corrado, 1990). Women were asked which health problems they had ever had from a list that included 'painful periods' followed by 'heavy periods'. Participants were then asked when they last had this health problem. They found that 31% of women

reported *ever* having had heavy periods. Amongst women aged 25 to 45 (n=719, the age range that we are interested in), they found that 35% reported *ever* having had heavy periods and 25% reported heavy periods in the past six months. Although summary statistics from this study are frequently quoted, the report is not in the public domain, contains no information about sampling or response rates and presents limited analyses.

A smaller community survey of 521 premenopausal women aged 35 to 59 years registered with two general practices found that 39% reported their periods as either 'fairly heavy', 'very heavy' or 'variable' during the past six months (as opposed to 'very light', 'fairly light' or 'neither heavy nor light') (response rate 87%) (Gath et al, 1987). Information on age, marital, employment and socio-economic status was correlated with psychological but not menstrual symptom variables as the main focus of the paper was on the former. Insufficient information is given to assess symptoms within age groups.

A survey of menstrual symptoms in ten countries found that 20% of parous menstruating women (no age restrictions) in the UK reported their last period as heavy (n=5332 for entire study, n=550 for the UK) (Snowden and Christian, 1983). The aims of the study were to explore physiological and psychological sequelae of menstrual bleeding, and reactions to changes in menstrual bleeding in order to

investigate the acceptability of different forms of contraception in different cultures. Therefore, no information was reported on socio-economic status, age or parity, beyond the selection criterion of only parous women being entered into the study.

Shapley et al (2004) recently reported on a survey of menstrual symptoms within one practice. They found that 52% of menstruating women aged 18 to 54 reported 'menorrhagia' over the past six months ('fairly heavy', 'very heavy' or 'variable' as opposed to 'very light', 'fairly light' or 'neither heavy nor light') (response rate 62%). Within the age group that we are interested in (women aged 25 to 44), prevalence was also found to be 52%. No information was presented on parity, contraception or socio-economic status. The higher prevalence rates found here than in earlier studies would suggest that reporting heavy periods is becoming increasingly common. However, comparisons with the MORI poll (Corrado, 1990) are hampered by the different questionnaire wording and comparisons with the study by Gath et al (1987) are hampered by the small sample size of the latter.

Cote et al used a large national survey in the US to explore the relationship of self-reported menstrual symptoms with health care use and work loss (Cote et al, 2002; 2003). They found that women below the age of 40 years were more likely to report heavier periods in response to the question, 'Compared with 12 months ago, is your menstrual flow lighter, about the same, heavier, more variable or has it stopped?'

They controlled for education in models regarding health care use and work loss but did not present data on associations between education and symptoms. Their data are difficult to compare with ours because of their focus on a change in periods whereas, as will be shown later, many of those reporting heavy periods in our study reported long duration of symptoms. Their results are made more difficult to interpret by their exclusion of current (but not past) users of the hormonal contraceptive pill. Those who had recently discontinued hormonal contraception, more common below the age of 40 years, might therefore have influenced their findings.

Brown et al (1988) carried out a postal questionnaire to examine the effects of contraception and smoking on self-reported menstrual symptoms. They did not present any figures on prevalence, however, and, although they controlled for age, parity and socio-economic status in their analyses, they did not present any analyses of the associations between these and menstrual symptoms.

In summary, existing prevalence estimates for heavy menstrual bleeding are not particularly robust, the oft-quoted figure of 35% from the MORI poll (Corrado, 1990), in particular. This same poll provides an estimate of heavy menstrual bleeding amongst women aged 25 to 45 in the past six months of 25%. Shapley et al's (2004) more recent study gave a prevalence of 52% amongst women aged 25 to 44, suggesting either that responses to such questions are very sensitive to wording, or

that there has been a large increase in the proportion of women perceiving their periods as heavy during the intervening years.

2.6.2 Factors associated with heavy menstrual bleeding

Age, parity, contraceptive use and socio-economic status are all thought to influence menstrual symptoms and are clearly interrelated. However, there have been no multivariate analyses of their joint effect on heavy menstrual bleeding. Moreover, most of the information regarding factors associated with heavy menstrual bleeding is derived from studies using measured blood loss rather than self-reported heavy periods.

Age and parity

The only studies of self-reported menstrual symptoms to provide any data about age are the MORI poll (Corrado, 1990) and the recent study by Shapley et al (2004), although these do not provide data on socio-economic status, parity or contraception. Both show an increase in reporting heavy menstrual periods with age but it is difficult to know how to interpret this in the absence of information about parity and contraception, in particular. Although the community survey by Brown et al (1988) controlled for age and parity in their analyses regarding contraception and smoking, they did not present data on the relationship between these and menstrual symptoms.

Hallberg et al (1966) measured menstrual blood loss in a total of 476 women sampled across six different ages (15, 23, 30, 40, 45, 50 years). They found higher measured blood loss amongst the oldest age group but this was not statistically significant. They report no data on socio-economic status in any of their work but published two papers considering the impact of parity on menstrual blood loss from the same series of studies (Rybo, 1966; Rybo and Hallberg, 1966). They found that parous women aged 23 had higher measured blood loss than nulliparous women of the same age but that this difference did not persist in older age groups. They concluded that parity in younger women had greater influence on volume of blood loss and hypothesised that this might be due to shorter time since last pregnancy. However, they did not find that the age of the youngest child was related to volume of blood loss, casting doubt on this hypothesis (Rybo 1966). In a separate study of 42 twin pairs Rybo and Hallberg (1966) found a possible relationship between increasing parity and higher measured blood loss but numbers in subgroups were small and this was not statistically significant.

Cole et al (1971) measured menstrual blood losses in 348 women aged 17 to 45 years in a Northumbrian mining village. They found that measured blood loss was related to parity but found no difference with age within parity groups, concluding that measured blood loss was related to parity but not age. Their sample included very

few nulliparous women above the age of 25, however, and collected no socio-economic data, a possible confounder. Overall, it seems that there may be a weak relationship between parity and measured blood loss, although findings are not consistent. The small size of many of these studies might mean that small differences were not detected. None of these early studies used multivariate statistical methods to explore the complex relationship between age, parity and socio-economic status. Patterns of contraceptive use, which are known to influence menstrual blood loss, would have been quite different at the time these studies were carried out from present day patterns.

Many of the above studies refer to measured menstrual blood loss and it is possible that the epidemiology of subjective blood loss would not necessarily reflect this. Fraser et al's (1984) exploration of the relationship between perceived menstrual loss and measured menstrual blood loss made an interesting point about the relationship between heavy menstrual bleeding and age. Amongst their study group of 69 women in secondary care with a 'convincing complaint' of menorrhagia, younger women were significantly more likely than older women to perceive a moderate loss as very heavy. This highlights the potential difference in age distributions of the relationship between measured blood loss and self-reported heavy menstrual bleeding, possibly due to greater experience with age in interpreting variations in personal norms.

Overall, the role of age and parity in heavy menstrual bleeding are far from clear, as has also been concluded in other reviews (van Eijkeren et al, 1989).

Interestingly, the MORI poll (Corrado, 1990) included the question, 'What, if anything, do you think first caused you to have heavy periods,' to which 28% said they had always had heavy periods, 17% said they thought they were caused by having children, 6% since coil insertion, 6% hereditary, 6% age, 4% stress and 3% since stopping the combined oral contraceptive pill. This 'lay epidemiology' would therefore provide stronger evidence for the effect of parity than age.

Contraception

Contraception is widely recognised as having a large impact on menstrual disorders. For instance, Brown et al (1988) used a postal questionnaire to investigate self-perceived menstrual patterns in 2115 women aged 18 to 49 years in England (response rate 74%). Women who used oral contraceptives were less likely than other women to report any of the seven menstrual abnormalities examined (heavy periods, painful periods, prolonged periods, frequent periods, irregular periods, inter-menstrual bleeding and severe pre-menstrual syndrome). Women who used an intrauterine contraceptive device (IUCD) reported more prolonged, heavy and frequent periods than other women. The levonorgestrel-releasing IUCD has since

been introduced which reduces menstrual blood loss (Hurskainen et al, 2001; Kelleher and Braude, 1999).

The effect of sterilisation on blood loss is unclear. Hodges (1989) refers to a PhD study (Cooper, 1981) which found that women's self-reported menstrual loss changed after sterilisation and that the direction of the change was related to the method of contraception used pre-operatively. For example, women who had used oral contraceptives perceived their blood loss as heavier post-operatively while women who had used an IUCD perceived their bleeding as lighter post-operatively. Kasonde and Bonnar (1976) found no difference in measured menstrual blood loss from 25 women three months before and six to 12 months after sterilisation. They commented that their study applied to tubal ligation and may not be generalisable to other surgical techniques. Tubal ligation is now a far less common operation than the laparoscopic application of tubal clips. Both these studies have limitations but it is possible that there is a difference in women's self-reported menstrual loss after sterilisation but not in their measured blood loss.

Socio-economic status

The relationships between hysterectomy rates and socio-economic status or educational status have been demonstrated both in the UK (Kuh and Stirling, 1995;Vessey et al, 1992) and elsewhere (Settnes and Jorgensen, 1996). Available

evidence suggests that this differential between different socio-economic groups could arise at a number of levels including experience of symptoms, consulting, referral or opting for surgery.

One study suggests that women of lower socio-economic status are more likely to report menstrual symptoms. Blaxter (1987) asked 9003 individuals (men and women) aged 18 or over whether they had had any of 24 common symptoms within the past month. She found a slight socio-economic gradient for women aged 40 to 59 reporting 'trouble with periods/menopause' with prevalences ranging from 15% in social class I to 19% in social class V (based on head-of-household occupation). However, it is difficult to interpret this because the question addresses both menopausal and menstrual symptoms. National data have shown that lower socio-economic status is associated with increased consulting for menstrual problems (based on head-of-household occupation) (Royal College of General Practitioners, 1990). Coulter (1994) showed that, amongst women who had consulted for heavy menstrual bleeding, women who had not received higher education were more likely to indicate a preference for surgical rather than medical treatment.

It has been found that, amongst patients referred to gynaecology out-patients, reporting periods as a severe problem was strongly associated with living in deprived areas for almost all aspects of menstruation (Warner et al, 2001b). This suggests that

the social gradient arises at the level of how symptoms are interpreted, although differences in referral patterns for different socio-economic groups would be an alternative explanation. There is evidence, therefore, that socio-economic factors influence period problems at the level of help-seeking, treatment preferences and interpreting symptoms as a problem with only slim evidence of a socio-economic influence in population reports of symptoms.

Brown et al (1988) showed that smoking is associated with a range of menstrual symptoms, even once socio-economic status has been controlled for (but did not present figures on the relationship between socio-economic status and menstrual symptoms). Others have shown a relationship between body mass index and heavy menstrual bleeding (Lake et al, 1995). As high body mass index is more common amongst women of lower socio-economic status it has been suggested that body mass index is a confounder in the apparent relationship between socio-economic status and menstrual symptoms (Lake et al, 1997).

2.6.3 Prevalence of painful periods and its associations

Although this study set out to focus on heavy menstrual bleeding, it was apparent from previous research (O'Flynn and Britten, 2000: Warner et al, 2001a) that experiences of heavy menstrual bleeding were difficult to separate from other

menstrual symptoms, mainly pain. Therefore I will briefly present the available literature on the epidemiology of menstrual pain, or dysmenorrhoea.

Kessel and Coppen (1963) surveyed 463 women aged 18 to 45 sampled randomly from within ten general practice lists in England (response rate 93%). They found that 45% reported moderate or severe pain with periods of whom 12% reported severe pain. This declined with parity and age although these were not examined multivariately. The MORI poll found that 39% of women aged 25 to 44 reported ever having had painful periods and 27% reported having had painful periods within the past six months (Corrado, 1990). Pullon et al (1988), surveyed 1826 women aged 16 to 54 in New Zealand asking women about their last menstrual period. They found an overall prevalence of 53% reporting pain of whom 12% reported discomfort severe enough to miss time off work or school. Dysmenorrhoea was positively associated with smoking and negatively associated with contraception and age with a maximum prevalence at 20 to 24 years. An apparent negative relationship with parity was not significant once age and smoking had been controlled for. Smoking has been found to be associated with an increased risk of reporting dysmenorrhoea in other studies (Brown et al, 1988; Hornsby et al, 1998; Parazzini et al, 1994).

Sundell et al (1990) carried out a longitudinal study of dysmenorrhoea amongst women aged 19 in Göteborg, Sweden, who they followed up for five years. The

prevalence of dysmenorrhoea was lower at 24 years than at 19 years of age, although at 24 years of age, 67% of the women still reported dysmenorrhoea with 10% reporting dysmenorrhoea limiting daily activity. The prevalence of dysmenorrhoea was reduced amongst parous women and oral contraceptive users but increased with cigarette smoking. Prevalence of dysmenorrhoea within this group was not associated with age as an isolated factor, nor with height, weight, or frequency of physical exercise. At 24 years, 33% of the women with dysmenorrhoea were taking analgesia and 22% were taking the oral contraceptive pill for the treatment of dysmenorrhoea. Only 18% of women reporting dysmenorrhoea at age 24 reported that they had consulted a doctor for this. The authors expressed surprise that 45% of women with dysmenorrhoea were not taking either analgesia or contraceptive pill and were apparently 'suffering in silence' despite these available treatments.

In summary, the prevalence of moderate or severe menstrual pain has generally been found to be within the range 27% to 53% for women of reproductive age (67% for women aged 24). The prevalence decreases with age but an apparent negative association with parity appears to be due to confounding by age and smoking.

2.7 Menstrual problems: self-care and help-seeking

Several studies have explored consulting for heavy menstrual bleeding and a few have explored self-care. I will attempt to distinguish between heavy menstrual bleeding and other menstrual symptoms in this discussion so far as possible, but have included any literature which throws light on health behaviour around menstrual problems in general. There is an extensive literature around pre-menstrual syndrome and I have excluded this where it is considered in isolation. I will first present what is known regarding the range and prevalence of self-care for menstrual symptoms, followed by what is known about informal and formal help-seeking.

2.7.1 Self-care for menstrual problems

There are no studies that focus on self-care for heavy bleeding alone but some information is available about self-care for 'normal' periods and for menstrual pain. Two qualitative studies have explored self-care for 'normal' periods. Patterson (1985) carried out interviews with 25 members of a women's volunteer organisation. She found that, in order to manage the menstrual flow and continue to participate in daily life, women need to 'juggle time, space and supplies', i.e. accessing toilets and sanitary protection simultaneously and this may require assistance in the workplace, for instance requiring longer or more frequent toilet breaks. Bransen (1992) carried out interviews and focus groups amongst women to explore attitudes to managing menstruation. It is not clear how the sample was derived but the implication is that

they were a community sample. She found an emphasis on coping and having a positive attitude which she identified as a double edged sword in potentially leading to feelings of guilt if symptoms became difficult to cope with.

The MORI poll provides the strongest quantitative evidence to date on self-care for heavy menstrual bleeding and menstrual pain (Corrado, 1990). Women were presented with a list of possible actions and asked, 'Which, if any, of these things have you ever done when you have had heavy or painful periods?' Amongst women who reported heavy or painful periods in the previous four months, 71% had taken painkillers from the chemist, 43% had 'laid down / rested / taken it easy', 20% had taken time off work, 18% had taken prescribed medication (other than the pill) and 16% had used the pill (specifically to control the condition). Most women reported doing several of the above. It is striking how common self-medication was. Even amongst women who reported heavy but not painful periods in the previous four months, 47% (45/95) reported taking painkillers bought from a chemist for their periods. Two much smaller studies of self-care focusing on dysmenorrhoea have found similarly high rates of analgesic use (Hewison and van den Akker, 1996) (Cronje and Kritzinger, 1991).

From the limited information available it is clear that self-care for heavy or painful periods is widespread and there is a suggestion of a moral dimension to 'coping' with periods.

2.7.2 Help-seeking for menstrual problems

The main research on help-seeking for menstrual problems relevant to this study are three community or primary care-based studies (Byles et al 1997; O'Flynn and Britten 2000; Scambler and Scambler, 1985) and one hospital-based study which addressed women's experiences of help-seeking in primary care as well as attitudes to treatment in general (Protheroe and Chew-Graham, 2004). Scambler and Scambler (1984, 1985, 1993) asked a community sample of 79 women aged 16 to 44 in London to complete a six week health diary followed by interviews covering symptom episodes, informal and formal consulting. They found that 74% (of 79 women) had consulted a GP at some time for menstrual problems and 37% had consulted in the previous year. As mentioned in the introduction to this thesis, Scambler and Scambler created a 'typology' of non-consulters, dividing them into four groups: 'unaffected', who reported relatively low impact of symptoms on everyday life; 'alienated', who did not feel that medicine would be able to help; 'realists', who linked menstruation with illness but experienced little symptom distress and 'marginals' who did not think of menstruation as an illness but experienced a high level of symptom distress. This latter group were almost equally split between those who accepted periods and felt their quality of life to be

unaffected and those who were antipathetic and judged the quality of their lives to have suffered. Although this goes some way towards explaining the variety of reasons why women might not consult, it does not address possible differences between menstrual symptoms such as heaviness, pain or pre-menstrual changes, which may be viewed differently in terms of their appropriateness for consulting.

Scambler and Scambler (1985; 1993) found that many women had not mentioned menstrual symptoms in their diaries but did report menstrual symptoms in response to direct questions about their perceptions and experiences of menstrual disorders at interview. They found that those who did not mention their periods in their diaries were surprised to be asked about their exclusion at interview, either not classing them as illness or suggesting that menstruation was normal but a nuisance.

> *"It is apparent that many women do not understand the changes occurring with menstruation as forms of illness. Instead of symptoms of illness they discern indications of altered states... Even unwelcome menstrual change may be interpreted in terms of indications of altered states rather than symptoms of illness. Inconvenience and discomfort, although negatively evaluated, need not be linked with failures of health."*
>
> (Scambler and Scambler, 1993:38)

Byles et al (1997) carried out three focus groups (total 16 participants) amongst women identified as having menstrual symptoms through a community survey of 200 women aged 30 to 50. All focus group participants had sought medical advice for their menstrual problems. The study was carried out in New South Wales, Australia

as part of the development of a package to encourage women to seek medical advice for menstrual symptoms and to facilitate interaction between women and their doctors. Findings presented constitute very brief descriptions of the problems experienced by women with menstrual symptoms, their experience of help-seeking and what they had found helpful in dealing with their problem. Their main reported problems were the impact of a range of menstrual symptoms on family, jobs and lifestyle. Regarding help-seeking, women said they found it difficult to ask questions and there was a general impression that their symptoms may not be taken seriously or may be dismissed as psychological. Those who spoke of feeling understood or taken seriously by their doctors found this helped deal with period problems.

O'Flynn and Britten (2000) found that interviewees spoke about consulting as being prompted by a change in menstrual cycle and that many women rejected the medical emphasis on volume of blood loss as being less important than how they felt in terms of tiredness, inconvenience, pain and effect on lifestyle. They also found that women were unsure whether heavy periods were illness or not, or what range of disturbance could be seen as normal, and that many felt they had received a dismissive attitude at consultation.

In order to examine women's knowledge of and attitudes towards treatment for menorrhagia, Protheroe and Chew-Graham (2004) carried out interviews with 15

women referred to a gynaecologist for heavy menstrual bleeding. They found that women had limited and often inaccurate knowledge of most treatment options, but were all aware of hysterectomy. The information women had about treatment was obtained from a variety of sources, mostly friends and family, but not from the GP. Many women expressed feelings of diagnostic uncertainty and a search for an explanation, diagnosis or 'label' for their symptoms.

Overall, there appear to be a variety of reasons for consulting for heavy menstrual bleeding, including the impact of a range of symptoms, concern regarding a change in cycle and seeking a diagnosis or explanation. It is important to remember, however, that women consulting in different settings may differ both in type and severity of symptoms and in their interpretation of symptoms. These findings may or may not therefore be relevant to the community sample we are studying.

2.8 Summary

'Menorrhagia' refers to both objective menorrhagia (a measured blood loss of over 80ml) and subjective menorrhagia (the self-reported symptom of heavy menstrual bleeding). This has contributed to a problematic conceptualisation of heavy menstrual bleeding in clinical practice as notions of measured blood loss as a gold standard remain, despite this not being carried out in routine practice. Reassurance and counselling have been suggested as first-line management for menorrhagia but the evidence base for this approach is lacking. It is not at all clear what such reassurance and counselling should consist of. Information provision and its subsequent discussion have been shown to influence treatment choices in secondary care.

Community studies of the prevalence of heavy menstrual bleeding are not robust but suggest that, amongst women aged 25 to 44, 25% report heavy menstrual bleeding in the past six months. Age, parity, contraceptive use, smoking and socio-economic status are all thought to influence menstrual symptoms and are clearly interrelated. However, there have been no multivariate analyses of their joint effect on heavy menstrual bleeding. Moreover, most of the information regarding factors associated with heavy menstrual bleeding are derived from studies using measured blood loss rather than self-reported heavy periods.

Self-care for heavy or painful periods appears to be widespread and there are suggestions that they are not viewed as legitimate illness and of a moral dimension to 'coping' with periods. Regarding help-seeking for menstrual problems, women seem to express some dissatisfaction with primary care consultations and favour a broader assessment of impact and change in symptoms rather than an emphasis on volume of loss. 'Heaviness' may be judged in relation to personal norm rather than with reference to outside criteria. Research from secondary care suggests a lack of knowledge about treatment options and that some women attend seeking a diagnosis. Reasons found for not consulting include low impact of symptoms, not viewing periods as illness and low expectations of services.

Chapter three

Methods

3.1 Original study design

3.1.1 Aims and objectives

The aims of this study were:

- To ascertain the prevalence of heavy menstrual bleeding and reporting periods as a problem in the community and their associations with socio-demographic and other non-menstrual health factors.

- To model reporting of 'problem' periods and consulting in terms of menstrual symptoms, socio-demographic and other non-menstrual health factors.

- To explore perceptions of periods as heavy or a 'problem' and investigate help-seeking and self-care amongst women with heavy menstrual bleeding.

To meet the study aims the following objectives were proposed:

- Carry out a cross-sectional survey of women in the community to assess prevalence of reporting heavy menstrual bleeding, other menstrual symptoms, 'problem' periods and limited related information on help-seeking;

- Establish a cohort of respondents reporting heavy periods to be sent a second more detailed questionnaire on menstrual symptoms, self-care, help-seeking, and psychological well-being;

- Send follow-up questionnaires to the cohort six months later asking about changes in symptoms and help-seeking in the intervening six months;

- Undertake qualitative interviews with a purposive sample of women who had completed the second (detailed) questionnaire in order to explore perceptions of periods as heavy or a problem and to examine the impact of symptoms in the context of individuals' lives and decision-making around self-care informal and formal help-seeking.

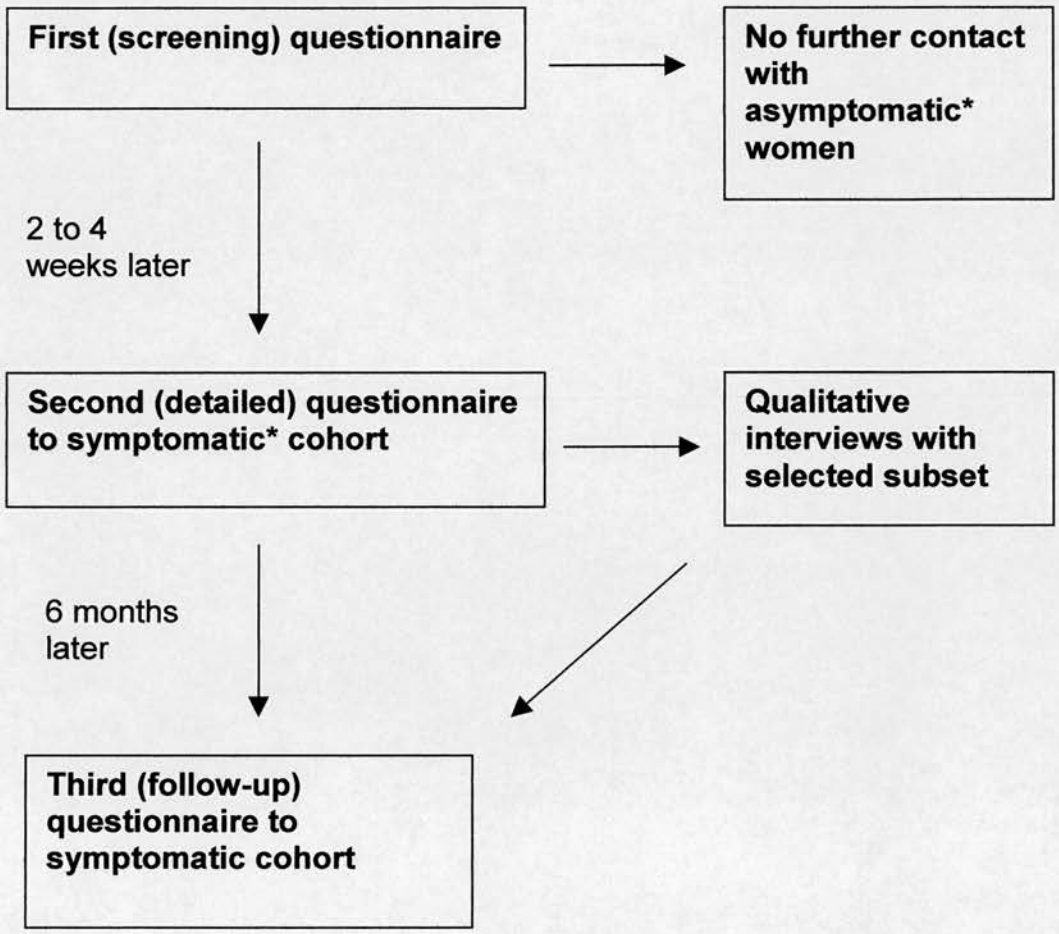

Figure 3.1
Study design

*For the purposes of this chart, women are described as 'symptomatic' or 'asymptomatic' on the basis of their response to the question 'How heavy are your periods?' 'Symptomatic' women are those who reported heavy or very heavy loss and 'asymptomatic' are those who reported light or moderate loss.

First questionnaires were sent in a rolling mail-out from October 2000 to February 2001. Reminders were sent if there was no response after 4 weeks. Second questionnaires were sent from November 2000 to April 2001 (within 4 weeks of the return of the first questionnaire). Third questionnaires were sent from August 2001 to October 2001. Qualitative interviews were carried out throughout 2001.

3.1.2 Study design

Figure 3.1 summarises the study design.

1. The screening questionnaire was sent by post to women aged 25 to 44 based on random sampling from within 19 general practice lists. This brief screening questionnaire identified those with heavy menstrual bleeding collected information on menstrual pain, duration of period, perception of periods as a problem, consulting about periods, general health, age, socio-economic status, contraceptive use and parity (questionnaire development and content will be discussed further in section 3.4.2);

2. A second more detailed questionnaire was sent to the cohort of women reporting heavy or very heavy periods asking further details about menstrual symptoms, self-care, help-seeking, smoking and including the 12-item general health questionnaire (GHQ-12);

3. A follow-up questionnaire was sent to those reporting heavy or very heavy periods six months later repeating key questions about symptoms, self-care and help-seeking;

4. Qualitative interviews were carried out with 32 women aged 27 to 44 years reporting heavy or very heavy periods in order to examine the impact of symptoms in the context of individuals' lives and explore why women pursue particular courses of action in terms of self-care and help-seeking.

The sample size was based on wishing to obtain an estimate of the prevalence of heavy menstrual bleeding within 1.5 percentage points either side of the true figure (with 95% confidence). In the largest existing survey to date, 25% of women aged 25 to 45 reported heavy periods in the previous six months (Corrado, 1990). To estimate a prevalence in this range to the desired precision would require a sample of 3201 respondents. Assuming a response rate of 70% to the initial screening questionnaire suggested we should mail initial questionnaires to 4600 women.

3.2 Rationale for study design

Our conception of self-care and help-seeking for heavy menstrual bleeding was of a complex behaviour around a commonly experienced symptom associated with ambiguities in definition and interpretation. As such, we thought it would be best explored by a combination of quantitative and qualitative methods. A community sample was chosen because we were interested in women's experience and management of menstrual symptoms regardless of whether they had consulted. This also allowed the opportunity of contributing to the sparse literature on the epidemiology of menstrual symptoms. Our main interest was in heavy menstrual bleeding but we were aware from existing literature that other menstrual symptoms are frequently also important factors in consulting about heavy periods (O'Flynn and Britten, 2000; Warner et al, 2001a). A consideration of menstrual co-morbidity was therefore a necessary part of the study. We also knew from previous survey research (Corrado, 1990) that heavy menstrual bleeding is sufficiently common that many women reporting this may not view it as a problem. For this reason we also decided to try to distinguish between reporting of menstrual symptoms and reporting periods

as a 'problem', including this in questionnaires and originally viewing perception of a problem as a possible intermediate step between the experience of symptoms and decisions to consult. We chose a longitudinal study design to allow the possibility of exploring the decision-making process around these behaviours over time, particularly as we were aware that menstrual symptoms are episodic and are often longstanding problems or experiences.

Our study design included asking about menstrual symptoms and self-reported consulting over the previous six months both at an initial time point then six months later. We therefore had a large amount of both cross-sectional and longitudinal data on which to base analyses of consulting. For the purposes of this thesis I have chosen to focus on the cross-sectional data alone as this forms a substantial chapter on its own, and I was keen to precede this with a detailed consideration of the data which we had on menstrual symptoms, perception of a problem and self-care. Thus I present an analysis of the relationship between consulting and other variables available from the first two questionnaires and analyses of reported menstrual symptoms and consulting in the subsequent six months will be developed in future papers.

In some of the analyses presented in this thesis, data will be used from both the first (screening) and second (detailed) questionnaires. This is not unproblematic in that the way people respond to questionnaire items that seek to elicit their experience may

vary at different time points. These response sets mean that response within a single questionnaire would be expected to be more closely correlated than responses collected at a different time point. This may be particularly apparent in menstrual symptoms where the time point that a respondent is at in relation to her menstrual cycle may influence her responses.

3.2.1 Epistemological position

I did not approach this study with a conscious epistemological position but became aware of the necessity of considering the basis of claims to knowledge through reading the literature on combining quantitative and qualitative methods. 'Objective truth' is problematic in both quantitative and qualitative research, although issues around claims to objectivity are more frequently debated with respect to qualitative methods used in a sociological tradition. Reading research findings (and, in particular, research findings regarding menorrhagia) suggested to me that both quantitative and qualitative research are subject to interpretation and that findings can never really be seen as impartial. I was impressed with the concept of constructivism (Guba and Lincoln, 1994) and arguments that all research outputs are socially constructed. Yet I was concerned that there must still be something to strive towards, that it must be possible to try to maintain objectivity while acknowledging the limits of this endeavour, otherwise research efforts would have no value at all if they were no more or less true than other competing accounts. As a GP, I was drawn to the view that the utility of research in bringing about social change should be prioritised (Cain and Finch, 1981) yet still concerned at the implication of utility

being given greater priority than efforts at 'correctness'. This was addressed by Hammersley (1992a) who wrote of seeking knowledge first while acknowledging its potential utility second. Hammersley and others (Seale, 1999) have commented that, although it is not necessary to resolve philosophical debates prior to embarking on research, an awareness of different philosophical traditions is likely to enhance research understandings. With this more limited aim in mind, I found 'subtle realism' to be helpful, with its emphasis on pursuing objectivity whilst recognising the constructed nature of accounts (Seale, 1999).

Hammersley (1992b) has set out the main tenets of subtle realism as:

1. The definition of 'knowledge' as beliefs whose validity is known with certainty, is misconceived. There can be no such knowledge, since we can never be absolutely sure about the validity of any claims; we could always be wrong. Instead, knowledge should be defined as beliefs about whose validity we are reasonably confident.

2. There are phenomena independent of our claims about them, which those claims may represent more or less accurately. Knowledge is true by virtue of the fact that it corresponds to the phenomena it is intended to represent (although we can never be *certain* that any knowledge claim is true).

3. The aim of research is to represent reality, but this is not to say that its function is to *reproduce* it (that is, to represent it 'in its own terms'). Rather, representation must always be from some point of view which makes some features of the

phenomena represented relevant and others irrelevant. Thus, there can be multiple, non-contradictory and valid descriptions and explanations for the same phenomenon.

One implication of this last point in particular is that it suggests that all research serves practice and that researchers make assumptions which cannot necessarily be tested. These assumptions and other ways in which accounts are generated should therefore be presented for inspection to readers (Hammersley, 1992b; Hammersley, 2000). My assumptions, such that I am aware of them, mainly derive from having spent most of my adult life as a doctor. I am aware, even when watching banal television programmes, that I can't view them without concern at their impact on lay beliefs around health and health services. It seems likely, therefore, that I can't avoid bringing certain interpretations and emphases from my medical background into questionnaire design, qualitative interviews and interpretation of data. However, I have done my utmost to counteract this by presenting as much information as possible about the way in which data were generated, for instance in referring back to wording of questions when discussing responses to questionnaire items or in attempting to provide sufficient context for qualitative data excerpts.

One reason for adopting a subtle realist position is that it embraces the use of different methods to answer different research questions. Some authors have argued that quantitative and qualitative research cannot be combined because of their

different epistemological underpinnings, that one rests on positivism, the other on constructivism and these cannot be logically accommodated, "any more than the ideas of flat versus round earth," (Guba and Lincoln, 1994:44). According to Guba and Lincoln, the characterisations of these two approaches are that positivism espouses value freedom and objectivity in measurement while constructivism deals with value boundedness based on the assumptions and the background of the researcher. Within this conceptualisation, approaches to data are opposing, drawing on either a 'hypothetico-deductive' or 'inductive' model. In other words, quantitative research frames hypotheses which are then tested upon the data whereas qualitative researchers begin by defining general concepts which, as the research progresses, change their definition.

However, Hammersley (1992a) has argued that these distinctions are less simple than they initially appear and that dichotomising the two approaches is misleading. He argues that differences between the two are often overstated and that this obscures the range of approaches taken within each tradition. For instance, although the inductive approach to theory generation in qualitative research would appear to be the opposite to the hypothetico-deductive approach of quantitative research, not all quantitative research is concerned with hypothesis-testing. Qualitative researchers, on the other hand, do not avoid holding assumptions prior to data collection, indeed seeking to build on existing theory. Brannen (1992) and others also argue that the difference between the two approaches has been overstated while maintaining that there is a distinction between the two in the way in which data are treated in terms of

theory generation or theory testing. Fielding and Fielding (1986) conclude that, "Ultimately all methods of data collection are analysed 'qualitatively', in so far as the act of analysis is an interpretation, and therefore of necessity a selective rendering, of the 'sense' of the available data… Even more plainly, the most advanced survey procedures themselves only manipulate data that had to be gained at some point by asking people," (Fielding and Fielding, 1986:12).

On a more pragmatic level, although qualitative and quantitative research have different epistemological underpinnings, this does not mean that as research methods they must remain necessarily linked to epistemological positions. Most authors agree that the purpose for which the data is to be used is of more importance than which 'paradigm' the researchers relate to (Bryman, 1992; Fielding and Fielding, 1986; Hammersley, 1992a). This leads to the question of which purposes are best met by qualitative and quantitative methods. In the field of health services research, Barbour (1999) has outlined the main purposes of the two different approaches: quantitative methods are most appropriate for addressing questions of prevalence, causality, the relationship between variables, prediction, comparison and measuring outcomes while qualitative methods are most appropriate for addressing questions of process such as organisational change, decision-making, perceptions, understandings and experience. Other authors writing in the fields of educational or social research have made similar recommendations regarding what type of data would best meet different objectives. Zelditch (1962), for instance, created such a categorisation and recommended applying criteria of 'informational adequacy' (i.e. accuracy and

completeness) and 'efficiency' (cost per added input of information) in deciding what type of data to collect to address which type of research questions. Sieber (1982) argues that this risks limiting researchers to using either quantitative or qualitative methods, whereas integrating quantitative and qualitative research techniques within a single project opens up greater opportunities for their mutual enhancement, as will be discussed further below.

3.2.2 Strengths and weaknesses of quantitative and qualitative research

Bryman (1992) and others have advocated the combining of quantitative and qualitative approaches on the basis of their differing strengths and weaknesses; that by combining the two any lack of 'depth' in one or 'breadth' in the other will hopefully be overcome. "The strengths of quantitative methods are that they produce factual, reliable outcome data that are usually generalisable to some larger population. The strengths of qualitative methods are that they generate rich, detailed, valid process data that usually leave the study participants' perspectives intact" (Steckler et al, 1992:1).

There are other ways in which the two approaches can potentially complement each other in terms of strengths in one overcoming weaknesses in the other. For instance, qualitative research can be open to bias towards the views of more easily accessed interviewees or to a 'holistic fallacy' where a conception of the research topic is made of all accounts being congruent. Survey data are more likely to include

responses from a wider sample and may be more likely to highlight if there is a minority whose responses alter significantly from the majority (Fielding and Fielding, 1986). On the other hand, survey findings can be seen as 'superficial' (Bryman, 1992) and dependent on the assumptions, for instance behind the questionnaire design. Qualitative work can complement this either by attempting to 'explain' findings or, if carried out prior to survey work, by informing questionnaire design.

Some have advised caution in that combining qualitative and quantitative methods may not reduce bias by multiplying data points but may potentially multiply bias by a proliferation of data: "By seizing the endorsement of multi-method research without borrowing the bias-checking procedures too, researchers avid to try new procedures simply multiply error, or pick out the points of similarity in data from procedures which may be quite incompatible," (Fielding and Fielding, 1986:31). It is therefore important to maintain methodological rigour within both quantitative and qualitative parts of a mixed methods study.

3.2.3 Combining quantitative and qualitative methods

Bryman (1992) lists a number of ways in which quantitative and qualitative research methods can be combined including:

- 'Triangulation' – enhancing validity of findings from one type of study by checking against the findings derived from the other type;

- Quantitative and qualitative research are combined in order to provide a general picture without overt efforts at 'triangulation';
- Quantitative research facilitating qualitative research, e.g. to enable purposive sampling;
- Using quantitative data from random samples to address a lack of generalisability from qualitative findings;
- Using qualitative research to facilitate the interpretation of relationships between quantitative variables.

Our study design has the potential to allow for all these ways of combining methods to some extent. Whether different types of data are best used in order to attempt 'triangulation' or to illuminate different aspects of the same topic will be discussed later in this chapter.

Morgan (1998) has summarised decision-making about study designs in mixed method research into the Priority-Sequence Model: firstly a decision is made about the priority of the two methods leading to selection of either a qualitative or a quantitative approach as the principal method; secondly, a decision about sequencing determines whether the complementary method will serve as either a preliminary or a follow-up to the principal method. He warns against giving the two methods equal priority as, although this will create a fully realised data set from each method, it

begs the question of how to analyse this combination of data in a coherent fashion. In terms of the sequence decision he describes the use of both methods simultaneously as the most difficult design in terms of supporting two different field efforts at the same time and co-ordinating what is being learned from the two approaches. However, Morgan concedes that what is best depends entirely on the goals of a given research project. "It would be entirely possible to design a project in which neither method had priority over the other and both were used simultaneously. It may make sense to call this design true triangulation. The current emphasis on complementarity argues that true triangulation is often not the most useful design for combining quantitative and qualitative data - at least at present," (1998:372). The term 'most useful' design here may equate to the most 'efficient' design in terms of resources as he points out elsewhere that in most cases one method or the other will be most likely to successfully answer a research question. The implication of this is that to use both methods with equal priority may lead to a duplication of effort as well as possible increased difficulties in analysis. In terms of sequencing it is likely to be the case that carrying out research efforts sequentially maximises opportunities for the second method to be informed by results from the first, although of course it means that the first method cannot be informed by the results of the second in anything other than the interpretation of findings. There are also time constraints on carrying out qualitative and quantitative components sequentially.

Our study design could therefore be criticised for inefficiency in addressing the same question using two different methods or of making inadequate use of information

generated by carrying these out simultaneously rather than sequentially. The linking of the two aspects of our study in terms of carrying out purposive qualitative sampling could be viewed as relatively unproblematic, as it is difficult to see how a group of non-consulters could otherwise have been accessed. However, looking at the question of decision-making around self-care and help-seeking using both methods is possibly more difficult to justify in Morgan's model, as it could be argued that one method or the other should have been chosen to answer this question and that to use both might be inefficient. I would argue that the use of both quantitative and qualitative methods is useful on the grounds that this is a complex behaviour where meanings and outcomes were both relevant. However, carrying these two parts of the study out sequentially rather than simultaneously may have been a still stronger study design. The decision to carry out both methods was essentially a pragmatic decision partly because, as a training fellowship, it was an excellent learning experience to do both. As both parts of the study were carried out over many months the findings from each could inform the other, in ways that I hope will be apparent in the data chapters and will be discussed more explicitly in the final chapter.

3.2.4 Combining qualitative and quantitative findings

Bryman (1992) highlights the need for clarity about whether quantitative and qualitative *research* or *data* are being combined. Punch (1998) distinguishes further between combining findings, combining data and combining methods: firstly, the findings of two types of investigation may be jointly presented, without combining

methods or data; secondly, two types of data can be brought together during the analysis, which contribute to the findings; finally, studies can combine methods, data and findings. These attempt to synthesise various research strategies, such as surveys and fieldwork, at different stages of the research process. In this study we have combined methods and combined findings, to some extent, although we do not combine data.

Many studies have used qualitative and quantitative methods within one research project but often without attempting to combine findings and still less often combining data. Barbour (1999) comments further that where mixed methods are used, the components are more often reported separately rather than being integrated. As we have seen, some would argue that it is impractical for the two approaches to play an equal part in the analysis because of the difficulty of analysing the results in a coherent fashion (Morgan, 1998). Others have argued that looking at the points of convergence and divergence of the two data sets can result in a more subtle and sophisticated understanding of a research topic than would be possible with either method alone if differences between the two are highlighted, investigated and explained (Dowell et al, 1995). However, few would suggest that the synthesising of the two is a straightforward procedure.

Bryman (1988) discusses the possibility that qualitative and quantitative findings may not concur and what this might mean. Qualitative and quantitative research may

not be tapping the same things even where they are examining apparently similar issues. The view of quantitative and qualitative findings as 'inconsistent', however, would suggest viewing data as attempting to apprehend a single reality rather than being created for specific purposes and therefore necessarily contextual. Mason (1994) concludes that the relationship between qualitative and quantitative research cannot be one of confirmation or contradiction and urges, instead, for the more modest goal of qualifying findings.

While a great deal has been written about the possibilities and potential problems of combining quantitative and qualitative research, relatively few texts are available on how to actually go about combining findings from the two. In attempting to do so I have mainly drawn on texts by Mason (1994) and Fielding and Fielding (1986). Mason recommends that when linking data from different sources it is necessary to work out the answers to three sets of questions:

1. *Data on what?* What do these data tell me about and what can they not tell me about? Process? Experience? Normative views?

2. *Strength of claim.* How well do these data tell me this? How convincing are claims I want to make on the basis of the data? What are the credible or likely explanations for what is going on? What is the full range of influences at work?

3. *Integration of data.* How best can I integrate and make sense of different forms of qualitative data? How can I integrate quantitative and qualitative material?

Although the first two sets of questions are important in interpreting all research findings, it is really the third set of questions which is crucial in trying to combine findings from two different methods of data collection. Mason identifies two possible strategies which can be used to integrate data:

1. Follow up similar themes in the different data sets as a way of linking the data by asking questions of each data set that would problematise the relationship between them. e.g. generate 'propositions' about conceptual issues;

2. Use data sets to address a particular topic (rather than a conceptual theme) from a variety of angles.

Mason writes that the main intellectual task is to decide which questions each data set, or type of data, could address, and what mix of data is appropriate to particular issues (Mason, 1994). Fielding and Fielding illustrate their text with examples from their own work. They used a similar technique of asking the same question of both data sets then used points of similarity or difference between the two to explore ambiguities and contradictions in their findings, as well as to pursue different aspects of the same question. These seem to me to be key issues in integrating quantitative

and qualitative findings: to formulate a small number of clear questions to address to the different data sets; to thoroughly explore differences between the two or unexpected findings with recourse to the other; to always bear in mind how the data were produced, what they tell us about and with what strength of claim.

3.2.5 'Triangulation'?

'Triangulation' is a term used in combining quantitative and qualitative methods which has been used in a variety of ways and which has been much criticised. Denzin (1970) proposed triangulation as one way of addressing threats to validity in qualitative research. The term was adopted from geographical surveying where measurements from two different points can be used to find the position of a third point. Denzin described a number of methods of triangulation including: data triangulation (using diverse sources of data); investigator triangulation (team research); theory triangulation (approaching data with several hypotheses in mind); and methodological triangulation, the most widely understood and applied approach. Methodological triangulation can be achieved by comparing different types of qualitative data, such as participant observation with interview data or, as discussed here, comparing qualitative findings with quantitative findings. Denzin therefore viewed data generated from quantitative and qualitative approaches as consistent and that findings from one method could be used to confirm or refute those from the other method. Others have argued that, although different methods can be used complementarily to examine different aspects of a research problem, to assume that combining approaches ensures validity of data is naïve in that data can only be

understood in relation to the purposes for which they are created (Bryman, 1988). Bryman, Brannen (1992) and others favour viewing data as complementary rather than confirmatory and that different data sets do not add up to some rounded unity. Cain and Finch (1981) also argue that multiplication of methods can help to deepen understanding of different aspects of an issue while firmly rejecting the possibility of apprehending one absolute truth being converged upon by the two separate qualitative and quantitative findings. This is similar to Mason's aim (1994) of using each to qualify the findings of the other rather than to attempt to confirm or refute the other. This is the approach to combining quantitative and qualitative methods which has been used in this study.

3.2.6 Methodological considerations relating to an epidemiology of heavy menstrual bleeding

As our main interest, epidemiologically, was on the burden of heavy menstrual bleeding within the population, we chose to examine prevalence rather than incidence. "Prevalence quantifies the proportion of individuals in a population who have the disease at a specific instant and provides an estimate of the probability (risk) than an individual will be ill at a point in time," (Hennekens and Buring, 1987:57). Incidence is inappropriate for measuring burden of disease in conditions of long average duration, as with heavy menstrual bleeding. Furthermore, there would have been considerable practical difficulties in measuring incidence. One implication of measuring prevalence is that it is dependent on both incidence and duration of symptoms. This means that any hypotheses generated are dependent on influences on

both incidence and duration. For instance, women with long duration of symptoms will be over-represented within our sample in comparison with women whose symptoms were short-lived, either through spontaneous resolution or through prompt treatment. One consequence of sampling women with more chronic symptoms is that self-management will perhaps be different from those experiencing more acute symptoms. Thus our study design may have an impact on our findings regarding self-care and help-seeking.

In investigating the prevalence of heavy menstrual bleeding there are important considerations, regarding both the nature of the total population at risk and the implications of taking a "snapshot" of experience at a given point in time for symptoms which are necessarily intermittent. We selected the age range of 25 to 44 years as women below this age range tend to have different menstrual problems and women above this age range will increasingly be experiencing menstrual changes related to the menopause. Furthermore, the main relevance for health services is women within this age range as they are most likely to undergo treatments including surgical intervention for their menstrual symptoms. However, even within this age group the population of women at risk is constantly shifting as women temporarily cease periods (for instance while pregnant or breastfeeding or undergoing treatments such as depot contraception) or permanently cease periods (for instance through having undergone hysterectomy or early menopause). Our population at risk therefore consists of women aged 25 to 44 who are currently menstruating.

In terms of measuring experience at a given point in time, it is clearly not appropriate to attempt to measure symptoms on one day only because of the intermittent nature of menstrual symptoms. An alternative would have been to ask women about their last menstrual period. However, the heaviness of many women's periods varies a great deal from one period to the next (Fraser et al, 2001). In terms of experience of periods and overall impact, it is the general experience over the last few periods rather than the most recent period which is more relevant to our study aims and we therefore chose to ask about periods over the last six months.

Symptom checklists in survey questionnaires lead to higher rates of reporting than open questions or diaries but the latter two demand high levels of commitment from respondents and usually have higher rates of non-response, limiting generalisability (Kooiker, 1995). These methodological issues raise questions about the nature or meaning of 'symptoms' elicited by questionnaire, which may only be experienced as 'symptoms' in everyday life with a variable degree of consciousness, if at all, and certainly do not equate to reporting symptoms to a doctor. Here, the epistemological debates most usually carried out within qualitative research are useful. Data generated can be viewed as 'accounts' created by the research undertaking and, although useful in achieving a greater understanding of the research topic, not necessarily representing an absolute truth. Questionnaire data are, similarly, a type of 'account' artificially produced for the purposes of the research endeavour,

influenced, for instance by the set of responses from which a respondent may choose. I will illustrate this with an example from one of the focus groups, where Emma was helping Linda to complete a pilot questionnaire as Linda had reading difficulties:

> *Emma (reading out question to Linda):*
> *'How heavy are your periods?'*
> *Linda:*
> *They are heavy at the beginning then they go down. The first three days are heavy. I would say nearly heavy, they are not flooding.*
> *Emma:*
> *Moderate then.*
> *Linda:*
> *Moderate.*

By the unusual scenario of tape-recording one person helping another to complete a questionnaire, it can be seen how the decision about which response to tick was chosen in this case. The four possible responses to this question were: light loss; moderate loss; heavy loss; or very heavy loss. Emma interpreted Linda's statement that she would say her periods were 'nearly heavy' by suggesting the response 'moderate', presumably as that was the response adjacent to 'heavy' on the questionnaire. However, if the last two comments were unavailable to someone reading this account they could remain unsure whether Linda might choose to describe her periods as 'heavy' if a different set of responses had been offered to her or if she was discussing her periods in a different context.

3.3 Execution of study: qualitative methods

3.3.1 Qualitative approach used in this study

As discussed in section 3.2.1, I chose to adopt a subtle realist approach to the research process as this acknowledges the contribution that the search for objectivity can make to the quality of research, without implying an unrealistic commitment to fixing knowledge as true for all time. Qualitative data, like quantitative data, are generated for the purpose of the research undertaking and will be shaped by the sorts of questions asked, to what extent interviewees can go off at tangents and the social context within which the interaction takes place. The narratives people choose to present about their experiences and understandings will reflect these and a variety of other considerations, such that data collected, while contributing to findings which may be more or less truthful, do not necessarily lead to the discovery of a single absolute truth. I will discuss some features of qualitative methodology in the sociological tradition which are particularly pertinent to our study design here.

3.3.2 Purposive sampling

Silverman (2000) outlines a method for purposive sampling on the basis of findings from a survey by creation of a typology and matrix then choosing potential interviewees on the basis of theory (interpreted as 'what we already know') and the number of cases that time and resources allow. In Silverman's view the only difference between purposive and theoretical sampling is when the 'purpose' behind purposive sampling is not theoretically defined.

A strength of our original study design was that, by basing our qualitative sampling on responses to the community survey, we were in a position to purposively select interviewees in order to collect data from women with a range of experiences. Potential participants were selected by their responses to the first (screening) questionnaire regarding: reporting periods as a problem; pain in addition to heaviness and consulting about periods within the last six months. Within these groups interviewees were selected to represent a range of different registered practices and beyond this the selection was random. A great deal of diversity was found in early interviews in terms of type and degree of impact of menstrual problems, which made it difficult to pick out patterns of self-care and help seeking initially. Some of these early interviews were with women who had not reported their periods as problematic (although they had all reported heavy or very heavy menstrual bleeding) and, although some themes were similar to those who had reported periods as a problem, less information about consulting was generated in these interviews. Therefore, a decision was made after the first nine interviews to only carry out further interviews amongst women who had reported their periods as a marked or severe problem.

3.3.3 Qualitative data collection

An interview guide was developed on the basis of the research questions, existing literature on heavy menstrual bleeding and findings from the focus groups (discussed later in this chapter in section 3.4.3) which had been carried out prior to development of questionnaires. The interview started with an open question regarding periods,

('So, first of all, can you tell me about your periods?') with prompts if necessary (see interview guide in appendix 3, page 363). The interview went on to cover the impact of current menstrual problems, if any, the history of menstrual problems, consulting, self-care and discussions with others. Although an interview guide was used, the aim of the interview was for women to relate their main concerns regarding their experiences of periods, with prompts to expand on areas of particular interest or points that were not completely clear. The guide was used as a reminder to check that all areas of research interest had been covered.

All but one of the interviews were taped and notes were made during the interview and immediately afterwards. One interviewee (Paula (all names have been changed)) declined to be recorded but particularly detailed notes were made during the interview with key phrases written down verbatim. One tape (Jennifer) was lost, believed to have been taped over in error by the transcriber. Again, detailed notes had been made during the interview, immediately afterwards and on listening to the tape prior to giving it to the transcriber. These cases therefore remained in the analysis. All subsequent tapes were copied before being handed to the transcriber. Transcripts were checked against the tape and corrections made. They were then entered into NVivo software, together with accompanying field notes.

3.3.4 Qualitative analysis

I took on board the suggestion of Coffey and Atkinson (1996) that qualitative data could usefully be approached from the point of view of a variety of analytical methods and a variety of theories. Although informed by grounded theory, the study did not follow all the methodological prescriptions that this would suggest. The method most closely followed was that of the constant comparative approach. Seale (1999:96) describes the four stages of the constant comparative method as follows:

1) Incidents in data are coded into categories so that the different incidents can be compared. This begins to generate ideas about the properties of the category.

2) Categories and their properties are integrated, noting how properties interact.

3) Theoretical saturation occurs when no new properties of categories appear and no new interactions occur.

4) Writing the theory [i.e. analysis] is then relatively straightforward since categories and their interactions provide chapter headings or titles of papers, properties provide section headings and the coded data provide plentiful illustrative examples.

The coding of the data is clearly crucial in determining how the focus of the analysis proceeds. We chose to code into 'themes' rather than 'categories' but the procedure of analysis was otherwise as described above. In general, long segments were coded in order to avoid 'decontextualising' the data. A coding frame was developed from relevant literature and from themes arising from early interviews. The two

supervisors and I read the first three transcripts and developed a coding frame jointly. The next three transcripts were read and coded independently then compared at supervision meetings. Most differences in how particular sections were coded were resolved by coding them for multiple themes. The coding frame was adjusted over the course of reading and coding the first nine interview transcripts. Data retrievals were then carried out on the basis of coding. Summaries were written for each theme, initially in batches of interviews as transcripts became available and ultimately summaries of themes for all data. Tabulations were made containing details of characteristics of each participant and notes regarding main themes in their interviews. This allowed comparisons between characteristics of interviewees in relation to themes, and examination of the interaction of properties of themes.

The only point in which I would not concur with the steps laid out above is that, having followed steps one to three, I did not then find the theory straightforward to write. Although relatively modest in our number of themes, there were still too many to write a chapter on each and difficult choices had to be made regarding which parts of the data to analyse in depth. For instance, data on women's explanations of causes or meanings of their menstrual symptoms constituted an interesting theme in itself but were only examined where they had direct bearing on another theme, such as help-seeking. This also provides an example of examining interactions between different properties of different categories, in this case the interaction between ideas about causation and accounts of self-care, informal or formal consulting.

3.3.5 Deviant cases

Deviant cases, or cases where 'things go differently' (Perakyla, 1997) were very important to the analysis and a detailed search and consideration of them was given within the main themes of self-care and help-seeking. Perakyla has described three uses for deviant cases:

1) Deviant cases that provide additional support for the analyst's conclusions, perhaps by showing participants acknowledging that an event is unusual.

2) Deviant cases that require modification of the analyst's emerging ideas.

3) The deviant case is considered exceptional for good, explainable reasons.

It could perhaps be argued that the first and third are not really deviant in that they do not cause a deviation from the developing hypothesis. They are still very useful in helping to refine a hypothesis, however, in that searching for them and explicitly including them helps to ensure that the full range of experience is explored, as will be presented in the data chapters.

3.3.6 Member validation

In a study like ours, which is looking to explore a specific aspect of women's experiences, it would seem an important goal that the account produced by the research exercise should be one that would be recognised and 'validated' by those who originally offered reports of their experiences. However, both 'weak' forms of

member validation (where participants are sent documents such as transcripts for correction) and 'strong' member validation (where they are asked to comment on the final report) have limitations (Seale, 1999). Emerson and Pollner (1988) have reflected on 'strong' member validation in detail. They carried out research into admissions procedures amongst psychiatric emergency teams and fed back the findings to team members. The problems which they encountered included: ambiguity of response, that it was sometimes difficult to assess whether a comment signified agreement or disagreement with the report; the 'relational context' influenced responses, for instance, people with whom they were friendly seemed less willing to criticise the report; and the 'organisational context' in which member validation exercises occur, if research has political consequences reactions to the account may be designed to influence possible organisational consequences.

In this study, participants were sent a copy of an abbreviated version of an interim report by post, together with a form for feedback and a space to tick if they wished further research reports as they became available. Of the 32 reports sent, 22 were not returned and one was returned with 'moved away' written on the envelope. Of the nine responses, five were blank but requested more information and four said 'interesting', of whom two also asked for more details, for instance about PMS or preventive medicines. The feedback provided by members was therefore of limited utility, in that it was difficult to know what to make of the general lack of comment. Some of the problems encountered by Emerson and Pollner (1988) might not relate to our study. For instance, participants could anticipate little in the way of political

consequence as a result of their responses to the account. However, despite the different study settings and our use of a 'weaker'' style of feedback, there are several points of similarity. Regarding ambiguity of response, it is difficult to know how to interpret a reply containing the two words 'Very interesting'. The 'relational context' is clearly also relevant to this study where the letter requesting feedback was from the interviewer. Having met me and spoken to me in their homes for up to an hour may have made women less likely to offer negative feedback, making it particularly difficult to know how to interpret the blank replies or non-response. Finally, in having asked for feedback by post instead of in person, women were less likely to engage with the process. Overall, this 'weak' form of member validation, while of benefit in terms of acknowledging participants' involvement, was of limited use in terms of 'validating' findings. It would certainly have been even 'stronger' to ask for feedback on the report in person rather than by post, but would have required still more commitment from women who had already generously given their time.

3.4 Execution of study: quantitative methods

3.4.1 Recruitment

We planned to approach 20 practices selected to be broadly representative of practices in Lothian, randomly select 250 women from each practice list of women in our target age range and return this list to practices so that women could be screened out if they had moved away or died or if receiving a postal questionnaire was considered potentially harmful (for instance due to psychological distress). We asked GPs not to remove women who had undergone hysterectomy as we wished to collect

data on how many women were not experiencing periods.

In order to provide a representative range of practices, stratification of practices was carried out according to practice size and deprivation (McLoone, 1994) and practices were sampled randomly within strata. If a practice declined to participate then another practice from within the same stratum was approached. In total, 32 practices were approached until we reached a target of 20 practices. Practices agreeing to participate were visited in order to obtain a list of all women aged 25 to 44 permanently registered, their dates of birth and addresses. Two hundred and fifty women were randomly selected from each of 20 practices, except where practice size meant that there were fewer women than this in the target age group in which case the entire eligible population were included. Three practices were using computer systems which did not enable exporting of electronic information. Paper print-outs of all women in the specified age range were provided by the practice instead and 250 names were picked on the basis of random number tables. Some practices had larger amounts of missing postcode data than others and one practice did not provide information about age. Questions regarding postcode and age were included in the first questionnaire but this missing information from the practices means that data on age and postcode-derived deprivation for non-responders varies by practice. Information on number of partners and number of female whole time equivalent partners was collected from each practice so that if we had found differences in consulting by practice we could have examined these as possible explanatory variables. One practice subsequently withdrew. This practice was not replaced as it was already apparent (due to a rolling mail-out) that we were likely to achieve our

desired sample size as both the response rate and the proportion of women reporting heavy menstrual bleeding were both higher than initially anticipated.

3.4.2 Questionnaire development

The aims of each questionnaire were:

FIRST (SCREENING) QUESTIONNAIRE (appendix 1, page 353)

- Collect data on menstrual symptoms in order to determine their prevalence and explore associations between these and 'problem' periods.

- Collect basic data on consulting regarding periods.

- Collect data on socio-economic status, age, parity, general health and contraceptive use in order to examine associations of these with menstrual symptoms, 'problem' periods and consulting regarding periods.

- Identify a symptomatic cohort to receive further questionnaires and place this cohort in relation to the rest of the surveyed population in terms of the socio-demographic and other variables listed above.

SECOND (DETAILED) QUESTIONNAIRE (appendix 2, page 356)

- Collect detailed data on menstrual symptoms in order to further explore menstrual experience and factors associated with reporting periods as a problem.

- Collect further data on self-care, help-seeking, impact of symptoms and GHQ-12 to further explore consulting for heavy menstrual bleeding.

- Ask open and closed questions regarding what women do to manage heavy menstrual bleeding themselves.

- Ask further details about informal and formal consulting in order to explore who consults who and what for.

- Obtain contact details for qualitative interviews.

All questions about menstrual symptoms (apart from the question about whether periods were a 'problem') were taken from existing questionnaires, all of which had been used amongst women who had consulted for heavy menstrual bleeding either in primary care (Coulter, 1983), secondary care (Warner et al, 2001a) or both (Ruta et al, 1995). Questions about general health, consulting in general and socio-economic status were incorporated from previously validated questions from published survey research in order to allow comparisons of our sample with existing data. The first (screening) questionnaire included two previously validated questions about general health: self-reported general health; and presence or absence of long-standing illness (Ware and Sherbourne, 1992; Scottish Office Department of Health, 1997). It also included a question about number of general practice consultations in the last 12 months included in the Scottish Health Survey (Scottish Office Department of Health, 1997).

We measured four different factors linked with socio-economic status: employment status, housing, age at leaving full-time education and postcode. In response to the question regarding employment, 51% of our sample reported working full time and 24% part time with other employment categories received far fewer responses. In response to the question regarding housing, 75% of our sample reported living in accommodation they owned. Neither employment status nor housing were found to be particularly useful in further analysis because of the limited spread of respondents between categories. Age at leaving full-time education and postcode-derived deprivation scores were used in preference. Where multivariate analyses were carried out to examine factors associated with reporting menstrual symptoms or periods as a problem, postcode-derived deprivation categories were found to have more explanatory power than age at leaving full-time education (a five category variable; 15 or under, 16; 17; 18; 19 or over). Postcode-derived scores are therefore generally presented in preference to age at leaving full-time education.

Postcode-derived deprivation scores were based on Carstairs scores derived by combining selected variables taken from small area 1991 Census data. These provide a summary measure applied to populations contained within small geographic localities (McLoone, 1994). Two recognised methods of categorising postcode-based deprivation scores were compared; divided into seven categories and divided into five categories. Where postcodes were divided into seven categories, groups 6 and 7

had just 50 and 77 women in each and the largest group was even bigger than that found by using deprivation divided into five categories (Depcat 7: 112; 489; 1095; 637; 323; 50; 77. Depcat 5: 601; 1023; 370; 653; 136). The five category postcode-derived deprivation score was therefore used in further analyses, where category 1 is least deprived and category 5 is most deprived.

The second (detailed) questionnaire used more detailed questions used in hospital questionnaires about heavy menstrual bleeding (Warner et al, 2001a) and newly designed questions about self-care and help-seeking. These included open questions to identify the full range of practices being used as well as closed questions based on what was known from the literature.

The General Health Questionnaire (GHQ) was originally developed as a screening tool for detecting possible psychological morbidity (Goldberg, 1972). Its introduction states, 'We should like to know how your health has been in general, over the past few weeks.' Questions regarding sleep, concentration, feeling unhappy, etc., each have four possible responses such as 'better than usual'; 'same as usual'; 'less than usual'; 'much less than usual'. The focus is therefore on acute psychological morbidity and the GHQ is not designed to detect more chronic psychological morbidity or personality traits. In analysing GHQ responses we used a cut-off of four or less versus five or more. This decision was based on its being commonly used in this way in other community-based studies (Goldberg and Williams, 1988).

3.4.3 Focus groups

We were concerned that questionnaire items derived from studies involving women who had consulted about periods might not be relevant to a study population who had not necessarily consulted. Two focus group discussions were therefore carried out to explore whether questionnaires were appropriate for use in the community in terms of language and main concerns about periods.

One group (four women) was arranged through a community-based women's health group in a deprived area of Edinburgh and was carried out on their premises. All women attending the community group in the few days prior to the session had been told that the focus group would be happening and those who wished to attended. So, although they were not known to have menstrual problems, attenders may have had more interest in the subject than those who had not chosen to attend. The other group was recruited through a practice where I worked as part of a 'chronic disease' audit. Women were identified by the practice computer system by searching for prescriptions of tranexamic acid, mefenamic acid or norethisterone. Notes were then checked and women excluded if they had received the prescription for something other than periods, if they were currently pregnant or did not speak any English or if GPs in the practice felt they would be unsuitable for a focus group. I invited all women whose main complaint appeared to be menorrhagia from their notes and some women who appeared to have been consulting about other menstrual symptoms. Fourteen women were invited by letter, of whom nine were subsequently

contacted by phone. (The others did not have phone numbers available or listed numbers were not working). Six women were unable to attend due to work or childcare commitments, one was not in when I phoned on three occasions and did not respond to an answerphone message. Ultimately, only two women attended the focus group, which was held on practice premises.

Focus group members were asked what aspects of periods, if any, bothered them, whether they had ever spoken to anyone about this and whether there was anything that might make them consult about periods in the future. Beyond these few questions, the content of the focus group discussion was very much led by the concerns of participants. They were asked at the end to complete the questionnaires and gave face-to-face feedback about this. Both focus groups were taped and transcribed. A formal analysis of the transcripts was not undertaken but the experience was useful in terms of ensuring that the terminology used in the questionnaires concurred with that used by women. Conducting the focus groups was also a valuable experience for me as part of the sensitising work in order to prepare for qualitative interviews.

3.4.4 Piloting questionnaires

The first (screening) questionnaire was piloted by asking the six women attending focus groups to complete it, sending it to 15 friends, colleagues and relatives and finally to 50 women from the practice where I was working who had consulted regarding periods. All women were asked to complete it and provide any feedback

they could think of. The second (detailed) questionnaire was piloted on women who were identified by the practice computer system as having attended for period problems. Small adjustments were made on the basis of this.

3.4.5 Problems with the questionnaires

We did not include smoking on the first (screening) questionnaire as we wanted to make this as brief as possible in order to maximise the response rate and we did not want to discourage smokers from completing the questionnaire. However, its inclusion on the first (screening) questionnaire would have provided valuable information in terms of evaluating relationships between socio-economic status, age, parity and menstrual symptoms, and would have allowed an examination of its role as a risk factor for menstrual symptoms or a potential confounder in associations between other variables and menstrual symptoms.

There were a lot of missing data for the first (screening) questionnaire question asking whether women had consulted about periods in the last six months: 15% (382/2574) ticked 'yes'; 68% (1743/2574) ticked 'no'; and 17% (449/2574) did not respond. This was an error in questionnaire layout (appendix 1) as the consulting question should have been placed above the free text question ('What bothers you most about your periods') and its preceding comment to skip to the next section if not applicable. Associations between non-response and other available information were examined in order to explore whether non-responders would seem more or less

likely to consult. Of the other questions on the first (screening) questionnaire, the question most closely associated with consulting was whether periods were reported as a problem or not (odds ratio 5.0, 95% confidence interval 4.0 to 6.4) and non-responders to the consulting question were therefore examined on this basis. Far fewer non-responders to the consulting question reported their periods as a problem than responders; 3.4% (15/446) of non-responders to the consulting question reported their periods as a marked or severe problem compared with 19% (333/1731) of those who replied 'no' and 55% (204/374) of those who replied 'yes'. However, taking the two extremes of possibility, that all non-responders to the consulting question were or were not consulters, then the estimates of consulting in the past six months could be placed between 32% (831/2574) and 15% (382/2574). Examination of the associations of non-response to the consulting question and, among those who responded, consulting or not, with reporting a marked or severe problem, suggests that the most likely estimate would be far closer to 15% than 32%. However, if missing data are excluded from the analysis then the proportion consulting is estimated as 18% (382/2125) and subsequent analyses including this variable were carried out with non-responders excluded as missing.

It is unfortunate that this problem with the layout of this question was not picked up on piloting the questionnaire. It is possible that the sample of women who filled in the questionnaire as a pilot were applying themselves more closely to the task, or that the numbers filling it in as a pilot were insufficient to highlight this design flaw.

Improvements could also have been made to the second (detailed) questionnaire (appendix 2, page 356). This includes the question, 'Have you ever seen your GP about your periods?' followed by the further question, 'If Yes, how long ago was the last time you saw your GP?' The 'If Yes…' question should have made it clear that this referred to the last time the GP had been seen *about periods*. It was sufficiently ambiguous that I excluded it from the analysis.

The question regarding who women had spoken to about what aspects of periods was poorly answered and this is probably a result of questionnaire design. The second (detailed) questionnaire included the questions, 'In the last 12 months have you asked advice from anyone about your periods? If yes, which of these did you discuss?' The layout of this question (appendix 2, page 356) shows that, although a great deal of care went into its design, it remained a tricky question to complete. The first column in each line asks 'Did you discuss periods with…friend / family member / GP / pharmacist / hospital doctor / health visitor / alternative medicine / other' (Yes/No). It is a flaw in the design of the question that the first line in each column ('Have you asked advice from anyone?') is intended to be mandatory with subsequent columns to be ticked as relevant. This, not surprisingly, has resulted in rather a lot of missing data for the first items.

3.4.6 Coding free text responses

Free text responses written into a questionnaire generate data that are sometimes treated as quantitative and sometimes qualitative. However, in qualitative data understandings can be checked by prompting or asking for clarification of any points of uncertainty and there is a wealth of contextual information which are not available when interpreting the findings from written responses on a questionnaire. In this study, therefore, these data were analysed quantitatively. However, this means that responses were interpreted by me and coded into categories. Assumptions made and limitations in this process are set out below. A further problem with this type of quantitative data is that free text questions typically have a higher rate of non-response than fixed-choice questions, limiting their generalisability.

Many women wrote several different items in response to these questions, in which case I coded up to three different items. In reporting these findings I will make it clear whether I am reporting their first response or all coded responses (although the latter then needs more cautious interpretation as the data are clustered and cannot be assumed to represent different experiences). Coding schemes were developed by looking at 100 or more questionnaires and developing categories representing responses until these appeared to be saturated. Coding schemes were then checked with other researchers for face validity. All questionnaire responses were then coded according to the categories developed. Individual coding decisions about how responses to each question were interpreted will be presented with the relevant sections in the data chapters.

3.4.7 Selection bias

One of the main sources of bias in cross-sectional surveys is selection bias, either as a result of bias in that the study population differs substantially from the population to which generalisations are made or bias due to the presence of a sizeable non-response rate where there is a systematic difference between responders and non-responders. We tried to minimise bias in our choice of study population by sampling through general practice lists (which have high population coverage in the UK), stratifying practices according to size and deprivation then selecting randomly from within these strata. There are inevitable limitations to generalisability, for instance basing this study in Lothian meant that relatively few of the study population lived in rural areas and relatively few were from ethnic minorities.

Selection bias as a result of non-response may occur either due to poor response to particular questions or at the level of the entire questionnaire, particularly where a general population is being surveyed for a condition which may not be salient to many. Of concern is that those for whom the questionnaire was more salient are more likely to respond but, unfortunately there is no way of testing this.

A Cochrane review of methods to improve responses to postal questionnaires has shown that response rates are higher when using monetary incentives, recorded delivery, shorter questionnaires, providing a second copy of the questionnaire at

follow-up, 'user-friendly' questionnaires and university sponsorship (Edwards et al, 2004). The odds of response have also been found to be higher with pre-notification, non-monetary incentives, follow-up contact, personalised questionnaires, use of coloured as opposed to blue or black ink, use of stamped as opposed to franked envelopes, and first class outward mailing. We employed many of these measures such as making the first (screening) questionnaire as brief as possible, accompanying it with a personalised covering letter on note-paper with a multi-coloured university crest and by sending a second copy of the questionnaire with a reminder. We did not, however, use monetary incentives, pre-notification or recorded or first class delivery, all of which would have substantially increased the cost of a questionnaire mail-out of this size. The Cochrane review found that the odds of response were reduced when the questionnaire included questions of a sensitive nature, when questionnaires began with the most general questions or when participants were offered the opportunity to opt out of the study. Our questionnaire placed the more general questions towards the end and the omission of smoking was related to its being a potentially sensitive topic with respect to health.

Non-response may be associated with factors other than the salience of the questionnaire, such as socio-economic status or age, leading to further sources of bias. We were able to test for these as we had data on age and postcode for most women who were posted a questionnaire. Response rate to questionnaires and to individual questions will be considered later in this chapter.

3.4.8 Hawthorne effect

By administering repeat questionnaires the study is open to a Hawthorne effect, i.e. the research process itself may influence behaviour in the intervening time period or may influence responses to subsequent questionnaires. Indeed, this consideration is not unique to the quantitative data. All interviewees would have completed two study questionnaires prior to their interview and from it would have received an impression of our research interests or may have come to view their own experiences differently. Two interviewees mentioned that taking part in the study had made them think about consulting a GP about periods, although none of those interviewed said that they actually had. In the quantitative data, there was a decrease in reported consulting in the six months between the first and third questionnaire as compared with the six months prior to the first questionnaire, suggesting that questionnaires did not lead to a surge in consulting (or if it had then was been masked by some other effect such as regression to the mean). But ultimately it is not really possible to evaluate the impact of the research on the women involved and on their responses to the second questionnaires or interviews.

3.5 Statistical methods

3.5.1 Quantitative data entry and checking

Questionnaire responses were double-entered by an experienced data entry clerk for all numeric or fixed-choice questions. A series of checks were carried out after data

were returned. Range checks were carried out on all variables. For numerical variables, outliers were checked against questionnaire responses. This revealed some unusual values (for instance, one respondent had written that she had attended her GP 43 times in the previous year) but no discrepancies between the database and the questionnaires. It became apparent that in 13 cases the age written on the questionnaire was outside our study range. This may have been as a result of inaccuracies in practice databases. Alternatively the questionnaire may have been completed by someone other than the woman to whom it had been addressed. These cases were excluded from subsequent analysis. Database entries were also checked for any 'impossible' entries, such as non-missing values for date of birth of last child where respondents had written that they had had no children.

A random sample of 5% of cases were checked for all data entries for the first (screening) questionnaire. As a result, seven errors were found in a random sample of 120 cases from the first 2404 questionnaires entered. Five of these errors were within the first batch of 175 questionnaires entered so further checks were carried out on data entries for these questionnaires. Numbers of errors were lower for the remainder of responses to the first questionnaire. A random sample of 10% of cases was checked for all data entries for the second (detailed) questionnaire. Very low error rates were found except that there was a tendency for blank responses to be entered as zero (for instance, in response to 'Over the last 12 months how many times have you consulted a GP?') All data entries were checked against questionnaire responses where this distinction was important.

3.5.2 Tests of associations

Associations between nominal or ordinal variables were tested for statistical significance using the χ^2 test (with correction for continuity where appropriate). In 2×c tables with c ordinal variables the χ^2 test for trend was used.

3.5.3 Logistic regression

Logistic regression was used to explore factors associated with reporting menstrual symptoms, 'problem' periods and consulting about periods. Logistic regression is used to examine relationships between predictor variables and a binary outcome variable. The coefficients obtained through logistic regression denote the magnitude of increase or decrease in the log odds produced by one unit of change in the value of the predictor variable for variables which are entered linearly. For variables entered categorically then the coefficients denote the log odds relative to a reference (indicator) value. Each coefficient can be converted to an odds ratio providing an estimate of the relative odds (for that value of a categorical variable relative to the reference value or per specified step-wise increment to a linear variable).

Multivariate logistic regression can be used to examine the relationships between several predictor (or independent) variables and an outcome (or dependent) variable in which case the coefficients or odds ratios summarise the association for each variable adjusted for all the other predictor variables in the model. Effect

modification may occur, whereby two predictor variables interact in such a way as to produce an effect on a dependent variable different from that which would be expected by simply adding their coefficients together. Interaction terms between predictor variables can be added to the model. The necessity for this can then be tested by assessing the amount of improvement to the model resulting from the addition of the interaction term against the increased complexity of the model.

The possibility that registered general practice could account for any extra variation was checked by entering this into the final model of consulting about periods. It did not improve the model and data are not presented here. Analyses were carried out using SPSS version 11.0.

3.5.4 Principal component analysis

The second (detailed) questionnaire included 18 questions about different aspects of menstrual experience. These included three different items about different aspects of heaviness, three about pain as well as other aspects of menstrual experience such as mood changes. There was likely therefore to be considerable overlap in measurement for several of these 18 variables and we decided to use a principal component analysis to combine these variables into a smaller number of more reliable summary scores representing underlying constructs. Principal component analysis is a multivariate method which works on the correlation matrix between a large number of variables in order to summarise these into a smaller number of component scores

representing shared variance. These components then reproduce the correlations among the observed variables. There is no criterion against which to test the solution produced by a principal components analysis except its degree of utility in meeting the purpose for which it is used and its ability to produce a set of constructs with face validity. The set of components developed here were interesting in themselves in elucidating the underlying constructs about menstrual experience, as well as being more reliable than individual variables. In addition, they could then be presented to a multivariate logistic regression model to assess their associations with reporting periods as a problem.

3.6 Response rate

In total, 4772 women were selected from the lists of 19 general practices in Lothian. GPs excluded 141 women resulting in the posting of 4631 questionnaires, of which 21 were returned by the post office due to incorrect addresses. A completed first (screening) questionnaire was returned by 2833 women, giving a response rate of 61.5% (2833/4610) (figure 3.2). This relatively low response rate is about that which might be expected for a community survey on a topic which is not necessarily relevant to recipients. However, it does mean that the data might be open to bias due to individuals being more likely to respond if the topic of the questionnaire was salient to them. This will be considered further below. The response rates for the second (detailed) and third (follow-up) questionnaires were 80% (633/787) and 82% (505/614) respectively.

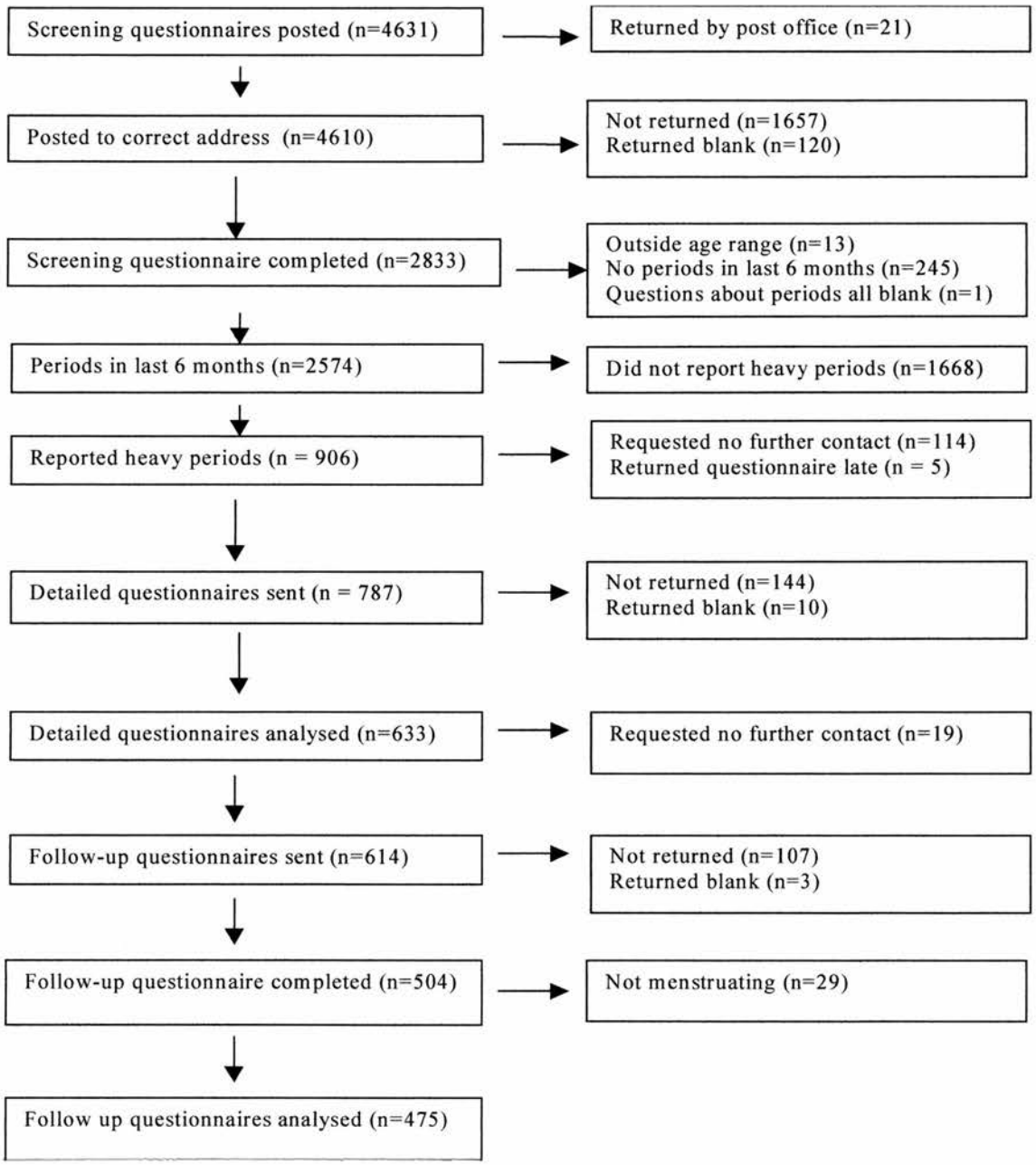

Figure 3.2
Diagram of participant flow for questionnaire survey and follow-up

There were small amounts of missing responses for all questionnaire items. As we have seen, some questions achieved a particularly poor response rate and this will be presented and possible causes and implications discussed. Otherwise, this was never more than 2.3% (59/2574 for the question regarding pain). Although no individual GHQ item had a non-response greater than 2%, adding these together to led to an overall non-response of 4.4% (28/633) for GHQ score. The effective (non-missing) sample size is reported if different from the total sample size. One respondent did not reply to any of the questions about periods and was therefore excluded from subsequent analyses.

3.6.1 Characteristics of respondents

Table 3.1 shows response rates to the first (screening) questionnaire by age and postcode-derived deprivation categories. It can be seen that the response rate is considerable lower within the younger age groups and the most deprived categories. Unfortunately there were no other data available on non-responders to the first questionnaire to compare with responders.

	Number returning questionnaire	(%)
Age category		
25 to 29	509/1007	(50.5)
30 to 34	708/1152	(61.5)
35 to 39	748/1138	(65.7)
40 to 45	788/1082	(72.8)
Total	*2753/4379*	*(62.9)*
Postcode-derived deprivation category		
1 (least deprived)	585/850	(68.8)
2	973/1419	(68.6)
3	351/528	(66.5)
4	549/992	(55.3)
5 (most deprived)	148/290	(51.0)
Total	*2606/4079*	*(63.9)*

Table 3.1

Numbers (percentages) of women responding to the first (screening) questionnaire by age and deprivation categories

* n's differ as there are missing data for both age and deprivation category

Amongst women reporting heavy periods, older women and those living in the most deprived areas were slightly more likely to opt out of further questionnaires (table 3.2). Table 3.2 also shows that the second (detailed) questionnaire achieved a slightly better response rate amongst older women and those from less deprived areas, although this was less striking than for the first (screening) questionnaire and was offset by these groups being less likely to opt out of further contact. Data on responses to the third (follow-up) questionnaire are not presented as they are not used in this thesis.

	Number opting out of further contact	(%)	Number returning 2nd questionnaire	(%)
Age category				
25 to 29	16/166	(9.6)	107/142	(75.3)
30 to 34	23/204	(11.3)	139/171	(81.3)
35 to 39	21/264	(8.0)	186/237	(78.5)
40 to 44	38/273	(13.9)	193/230	(83.9)
Total	***98/907***	***(10.8)***	*625/780*	*(80.1)*
Postcode derived deprivation				
1 (least deprived)	16/188	(8.5)	144/164	(87.8)
2	35/318	(11.0)	217/271	(80.1)
3	13/124	(10.5)	88/107	(82.2)
4	24/226	(10.6)	150/198	(75.8)
5 (most deprived)	8/45	(17.8)	23/36	(72.2)
Total	***96/901***	***(10.7)***	*625/776*	*(80.5)*
Heaviness				
Very heavy	15/136	(11.0)	91/116	(78.4)
Heavy	84/778	(10.8)	535/665	(80.5)
Total	*99/914*	*(10.8)*	*626/781*	*(80.1)*
Pain				
Severe/very severe pain	24/267	(9.0)	168/226	(74.3)
No/slight/mod pain	70/611	(11.5)	436/530	(82.3)
Total	*94/878*	*(10.7)*	*604/756*	*(79.9)*
Problem				
Marked/severe problem	41/396	(10.4)	257/338	(76.0)
No/slight problem	57/506	(11.3)	367/436	(84.2)
Total	*98/902*	***(10.9)***	*624/774*	*(80.6)*

Table 3.2 Numbers (percentages) of women who had reported heavy periods on the first questionnaire who then (a) opted out of follow-up and (b) responded to the second (detailed) questionnaire: shown by age, deprivation category, heaviness, pain and 'problem', as reported on the first questionnaire

3.6.2 Characteristics of interviewees

All women participating in the qualitative part of the study had reported heavy or very heavy bleeding on the first (screening) questionnaire, and had written a contact phone number on the second (detailed) questionnaire. Of women completing the second questionnaire, 57% (360/633) gave contact details and there was a tendency

for women in their early 30s to be less likely to offer contact details (table 3.3). Those reporting very heavy bleeding, painful or 'problem' periods were slightly more likely to offer contact details.

	Number who gave contact details for qualitative interview	**(%)**
Age category		
25 to 29	61/107	(57.0)
30 to 34	67/139	(48.2)
35 to 39	107/186	(57.5)
40 to 44	120/193	(62.2)
Total	*355/625*	*(56.8)*
Postcode-derived deprivation		
1 (least deprived)	90/144	(62.5)
2	125/217	(57.6)
3	44/88	(50.0)
4	80/150	(53.3)
5 (most deprived)	16/26	(61.5)
Total	*355/625*	*(56.8)*
Heaviness		
Very heavy	58/91	(63.7)
Heavy	300/538	(55.8)
Total	*358/629*	*(56.9)*
Pain		
Severe/very severe pain	102/168	(60.7)
No/slight/moderate pain	238/436	(54.6)
Total	*340/604*	*(56.3)*
Problem		
Marked/severe problem	159/257	(61.9)
No/mild problem	195/367	(53.1)
Total	*354/624*	*(56.7)*

Table 3.3
Numbers (percentages) of women completing the second (detailed) questionnaire who gave contact details for qualitative interviews shown by age, deprivation category, heaviness, pain and 'problem' as reported on the first questionnaire

Semi-structured interviews were carried out in interviewees' homes with 32 women aged 27 to 44. Distribution of interviewees by age and postcode-derived deprivation categories are shown in table 3.4 and their occupations and marital status are shown in tables 3.5 and 3.6. Table 3.7 shows individual characteristics of each interviewee and table 3.8 shows questionnaire responses for qualitative interviewees. As a result of purposive sampling, there is a higher proportion of women reporting very heavy bleeding, or a marked or severe problem amongst interviewees compared with other women completing the questionnaires. Of the 32 interviewees, 12 had reported consulting within the last six months, which was higher than the reported rates for respondents to both the first (screening) questionnaire (18%) and the second (detailed) questionnaire (24%), again due to purposive sampling.

	Number of interviewees
Age category	
25 to 29	6
30 to 34	4
35 to 39	11
40 to 44	11
Total	*32*
Postcode-derived deprivation category	
1 (least deprived)	4
2	8
3	9
4	9
5 (most deprived)	2
Total	*32*

Table 3.4
Characteristics of qualitative interviewees

Occupation	Number
Nursing or related (includes 1 midwife and 1 occ health nurse)	6
Clerical	5
Retail management (ranging from deputy manager in small branch of chain to manager responsible for setting up new outlets)	4
Housewife	3
Factory work (includes 1 shift worker in PO sorting office)	3
Not working due to ill health	3
Academic (includes 1 university lecturer, 1 mature student and 1 librarian)	3
Self-employed (includes 1 mobile hairdresser and 1 pet-minder)	2
Events manager	1
Caterer	1
Unemployed (described self as unemployed as had recently been made redundant due to closure of large factory)	1

Table 3.5
Occupations of interviewees

Home circumstances	Number
Living with partner and 1 or more children	16
Living alone	7
Living with 1 or more children and no partner	4
Living with partner and no children	2
Living with parents	2
Living with partner – children already left home	1

Table 3.6
Home circumstances of interviewees

Name (altered)	Age	Domestic circumstances	Pregnancies	Employment
Alison	29	Lives with partner and baby	1 baby	Lecturer (currently maternity leave)
Anita	45	Lives with partner and children	2 children	Midwife
Andrea	27	Lives with parents and sister	None	Sales assistant
Anna	39	Lives with partner	None	Pet minder (self-employed)
Audrey	43	Lives with husband and adult son	3 children	Clerical
Belinda	38	Separated, lives with daughter	1 child	Retail manager
Christine	43	Lives with partner	2 adult children	Caterer
Clare	25	Lives with partner and child	1 child	Student
Diane	40	Lives with partner and children	2 children	Nurse
Elaine	39	Lives alone Recently separated	None	Off work due to depression. Previously dental nurse
Fiona	40	Lives with partner and children	2 children	Clerical
Irene	39	Lives with partner and daughter	1 child	Nurse
Jane	40	Lives with partner	Trying for pregnancy	Nurse
Jean	42	Lives with husband and children	2 children	Clerical
Jennifer	35	Single, lives with son	1 child	Off work due to ME. Previously clerical
Joanne	28	Lives alone with children	2 children	Hairdresser (self-employed)
Katherine	43	Separated. Lives with children	2 children	Clerical
Kirsty	28	Lives alone	None	Librarian
Leah	32	Lives with partner and children	3 children alive (1 died)	Housewife
Lorna	36	Lives with parents and partner	Trying for pregnancy	Post office sorter
Louise	38	Lives with partner and children	1 child alive (1 died)	Retail manager
Margaret	38	Lives alone	None	Factory work
Mary	42	Lives with husband and children	3 children	Nurse
Megan	35	Lives alone	None	Nurse
Patricia	43	Lives with partner and children	2 children	Off work due to depression
Paula	31	Lives alone Long-term partner	Currently (1st) pregnancy	Factory work
Ruth	31	Lives alone	None	Retail manager
Sarah	29	Lives alone Long-term partner	None	Clerical
Sheila	43	Lives with partner and children	3 children	Unemployed. Previously factory work
Shirley	36	Lives with partner and children	3 children	Housewife
Sophie	38	Lives with partner and children	2 children	Part time events manager
Tracy	42	Lives with partner and daughter	1 child	Housewife

Table 3.7
Individual characteristics of qualitative interviewees

All interviewees were British and white except for Leah who described herself as Iraqi and had been living in the UK for two years.

Questionnaire response to 'problem'	Questionnaire response to 'pain'	Questionnaire response to 'heaviness'	Main menstrual symptoms related at interview (Co-morbidities with large impact)	
			Consulted in last 6 months according to questionnaire response	Did not consult in last 6 months according to questionnaire response
Marked / severe problem	Severe / very severe pain	Very heavy loss	Louise: heavy	Anita: heavy & pain Clare: heavy Megan: heavy & pain & PMS
		Heavy loss	Elaine: pain (depression) Mary: heavy & pain (depression) Paula: pain Margaret: pain	Sarah: pain & PMS Alison: heavy & pain & irregular Tracy: heavy & headaches Ruth: heavy & pain Lorna: pain
	No / slight / moderate pain	Very heavy loss	Jennifer: heavy & PMS (ME) Katherine: heavy Audrey: heavy Jean: headache	Irene: heavy Patricia (depression): heavy Sheila: heavy Anna: heavy
		Heavy loss	Shirley: heavy & PMS Leah: heavy	Andrea: heavy & pain Jane: irreg & pain (subfertility) Joanne: pain
No / slight problem	Severe / very severe pain	Very heavy loss	Belinda: heavy & pain	
		Heavy loss		
	No / slight / mod pain	Very heavy loss		
		Heavy loss		Christine: heavy Diane: heavy & pain Sophie: heavy Fiona: heavy sometimes Kirsty: heavy & pain

Table 3.8

Purposive sampling of qualitative interviewees on the basis of questionnaire responses showing frequencies of questionnaire responses

Responses of interviewees to key questionnaire items: Do you feel your periods are a problem for you? How painful are your periods? How heavy are your periods? Have you consulted a GP about period problems in the last 6 months?

3.7 Ethical and data protection considerations

Lothian Research Ethics Committee approval was obtained. This study was designed just prior to guidance on interpretation of the 1998 Data Protection Act which set out that patient information, including contact details, should not be used for any purpose other than clinical care without prior patient consent. If the study was being carried out now we would not have obtained information from practices about patients' contact details in this way. The study was therefore conducted in accordance with data confidentiality good practice at that time but would be carried out differently if taking place now. Information that could be identified to individuals was kept in a password-locked computer or locked filing cabinet.

One practice took part on the basis that they would not share names and addresses but would carry out the mail out of questionnaires and reminders themselves. A covering letter made it clear that if participants returned a questionnaire then the practice would give me their name and address in order to send them further questionnaires. As this was an unexpected development, no funds had been budgeted for support staff to achieve this mailing. The practice had very little spare administrative time, however, resulting in the practice manager and myself carrying out the mail out, a situation which was unsatisfactory to her and incurred delays to the study. This practice had a very similar response rate (61.5%) to that achieved in response to the first (screening) questionnaire overall (61.5%). This may seem surprising in that, by including a covering letter signed by their GP rather than a

university researcher, a higher response rate might have been anticipated. However, this practice served a population mainly living in more deprived areas which perhaps counterbalances this.

3.8 Terms to be used in this thesis

In reporting the qualitative data set I have tried, in general, to reflect terminology used by interviewees while trying to remain aware of how terms may have different meanings for different people. I was aware at the outset of the study of suggestions that women used the term 'heavy' to refer to various different aspects of menstrual experience (O'Flynn and Britten, 2000). I therefore tried to ascertain what was meant whenever this term was used.

I will use the terms 'period problems' or 'problem periods' in the quantitative data set to refer to women who have reported their periods as a marked or severe problem in response to a fixed choice questionnaire item. In the qualitative data set this term is used where: women were referring to difficulties caused by several menstrual symptoms; women were referring to menstrual difficulties where it was not clear exactly which symptoms were most problematic; or reference is made to several women who reported different menstrual symptoms as problematic. I will attempt to make the distinction between periods in general which, even if sometimes irritating, were not necessarily spoken about as a problem, and periods that seemed to be

presented as a problem. This was not always an easy distinction to make in the interview data, however.

In presenting the quantitative data I will use the term 'symptoms' to refer to women's reports of their menstrual experience as elicited by questionnaire survey. The presence of symptoms in this context means that a participant ticked 'heavy' or 'very heavy', for instance. In discussing the qualitative data I will try to avoid the term 'symptoms' but at times have used it to refer to women speaking about different aspects of their menstrual experience.

3.9 Summary

The aims of this study were:

- To ascertain the prevalence of heavy menstrual bleeding and of reporting periods as a problem.
- To model reporting of 'problem' periods and consulting in terms of socio-demographic, other non-menstrual health factors and menstrual symptoms.
- To explore perceptions of periods as heavy or a problem and investigate self-care, informal and formal help-seeking amongst women with heavy menstrual bleeding.

We designed a community survey to explore the epidemiology of heavy menstrual bleeding and reporting periods as a problem and a mixed methods study to address questions regarding self-care and help-seeking around a commonly experienced symptom with possible ambiguities in definition and interpretation. We used a brief first (screening) questionnaire to identify symptomatic women and collect basic data. This was followed by a second (detailed) questionnaire sent to women reporting their periods as heavy with a third (follow-up) questionnaire six months later. Due to the large amount of data generated, this thesis focuses on data from the first two questionnaires.

Questionnaires were sent to random samples generated from amongst women aged 25 to 44 registered with 19 practices. The response rate of 61.5% to the first (screening) questionnaire was slightly disappointing and means that the data might be open to bias due to individuals being more likely to respond if the topic of the questionnaire was salient to them. Multivariate logistic regression was used to examine relationships between various predictor variables and outcomes such as reporting menstrual symptoms, 'problem' periods and consulting about periods. Principal component analysis was used to reduce large numbers of menstrual symptom variables to a smaller number of underlying constructs in order to explore symptom experience.

Qualitative interviews were conducted with 32 women who had reported their periods as heavy. Interviewees were sampled purposively on the basis of reporting periods as a problem, menstrual pain and consulting about periods. Interviews were taped, transcribed and coded before being analysed using a constant comparative approach. Although combining quantitative and qualitative *methods* is increasingly common, fewer studies have attempted to combine *data* or *analyses* from the two. Although we did not set out to overtly 'triangulate' or validate findings using data from each data set, we did intend to use the findings as complementary so that the analyses could inform each other. Other authors have suggested combining findings by formulating a small number of questions to address to both data sets; exploring differences between the two or unexpected findings with recourse to the other; and always bearing in mind how the data were produced.

Chapter four

Exploring the epidemiology and experience of heavy menstrual bleeding and 'problem' periods

This chapter concerns the factors associated with reporting heavy menstrual bleeding and 'problem' periods and the way in which these are experienced. Firstly I explore the epidemiology of heavy menstrual bleeding and 'problem' periods, the relationship between these two and with other factors. Secondly, I investigate what aspects of periods women find most problematic through an examination of free text responses and a principal component analysis of detailed questions about problems with a wide range of menstrual symptoms. Thirdly I explore the meaning of the terms 'heavy' and 'problem' as used by women in qualitative interviews. Although the focus of this study was on heavy menstrual bleeding, other menstrual symptoms influence whether periods are experienced as a problem and will therefore be considered here as well.

4.1 Epidemiology of heavy menstrual bleeding, menstrual co-morbidity and 'problem' periods

Data from the first (screening) questionnaire gave information on menstrual symptoms, reporting periods as a problem and other information such as age, parity, contraceptive use, longstanding illness and postcode (from which a deprivation score was derived). This allowed an exploration of the epidemiology of both menstrual symptoms and 'problem' periods and the relationship between the two. Findings regarding the prevalence of menstrual symptoms will be presented first, together with analyses of factors associated with reporting of such symptoms. Next the

prevalence of reporting 'problem' periods will be reported followed by analyses of factors associated with 'problem' periods, including menstrual symptoms.

4.1.1 Prevalence of menstrual symptoms

Of women who completed and returned the first (screening) questionnaire and had menstruated in the preceding six months, 771/2559 (30.1% (95% CI 28.3 to 31.9)) reported heavy menstrual loss and a further 135/2559 (5.3% (95% CI 4.5 to 6.1)) reported very heavy loss (alternative responses being light or moderate loss). Moderate pain was reported by 37% (934/2515) of respondents and severe or very severe pain was reported by a further 366/2515 (14.6% (95% CI 13.2 to 15.9)) (alternative responses being no or slight pain). Only 2% (57/2515) reported very severe pain so in subsequent analyses 'severe' and 'very severe' were analysed together and are presented together as 'severe' from here on. Altogether 39% (970/2502) of women reported either or both of heavy (or very heavy) bleeding and severe pain. Figure 4.1 shows the numbers of women reporting the various degrees of heaviness of periods (the overall height of each column), and the proportion of each bleeding subgroup who reported severe pain (the bottom clear section of each column). It can be seen that relatively few women reported very heavy periods, and that there was a clear association between reports of heaviness of loss and pain. Six per cent of those reporting light or moderate bleeding reported severe pain with their periods, compared to 27% of those reporting heavy bleeding and 49% of those with very heavy bleeding (chi-square for trend = 311, df=1, $p<0.001$).

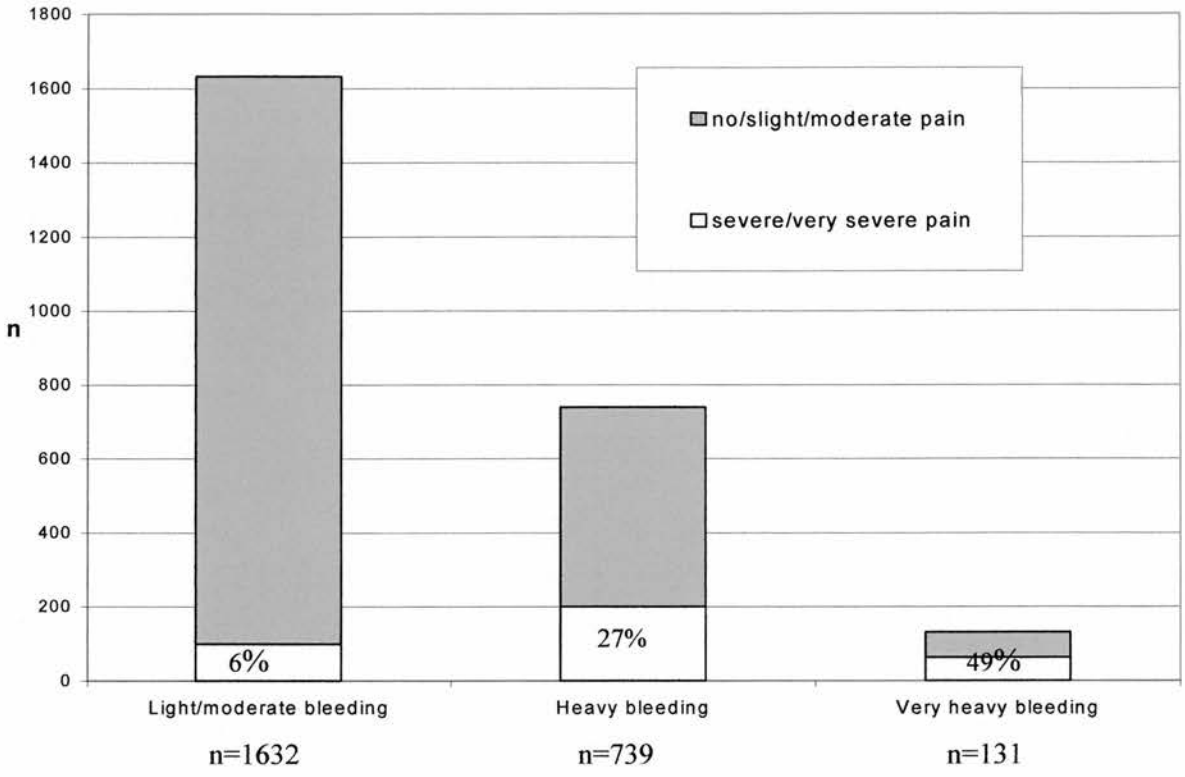

Figure 4.1
Numbers reporting painful periods by categories determined by reported heaviness of periods
(bars annotated with percentage severe pain)

Our figures regarding the prevalence of menstrual symptoms are broadly in line with those available from previous research. A community survey of menstruation carried out by a market research company (MORI) on behalf of Parke-Davis pharmaceuticals found that 25% of women aged 25 to 44 reported heavy periods in the past six months (Corrado, 1990). Our figure of 35% reporting heavy periods in the past six months is higher than this but it is difficult to know how to interpret the difference due to the limited information about study methods available from the

market research study. A more recently published survey of menstrual symptoms (Shapley et al, 2004) found that 52% of menstruating women aged 25 to 44 reported 'menorrhagia' over the past six months ('fairly heavy', 'very heavy' or 'variable' as opposed to 'very light', 'fairly light' or 'neither heavy nor light'). Their higher prevalence finding is probably related to the different question wording regarding heaviness. Although differences in study methods, questions used and respondents may have influenced findings, the higher prevalence in our study and Shapley et al's study compared with older studies may be a result of changing patterns in contraceptive use and childbearing. Amongst women aged 25 to 45 in the MORI poll (Corrado, 1990), 18% were using hormonal contraception whereas in our study this proportion was 31%. Given the protective effect of hormonal contraception, this would be expected to lead to fewer women in our study reporting menstrual symptoms, the reverse of which is the case. On the other hand, if hormonal contraceptive use is now so much higher, fewer young women may be experiencing 'natural' menstruation, and instead may be 'normalising' to the withdrawal bleeds of the combined oral contraceptive pill. This could account for a secular change in reports of 'heavy' periods.

The prevalence of menstrual pain in our study is very similar to that found elsewhere. Kessel and Coppen (1963) surveyed 465 women aged 18 to 45 in the UK and found that 45% reported moderate or severe menstrual pain and 12% reported severe pain. Pullon et al (1988) in a community study of 521 women in New Zealand found 53% of women aged 16 to 54 reported pain with 12% reporting severe discomfort. The

figures from our study are 52% (moderate or severe combined) and 15% (severe) respectively. The above studies were chosen for comparison as the questions used and the populations studied were similar to ours. Other studies reporting prevalences of dysmenorrhoea vary from 17% to 57%, depending on methods and the wide variation in questions used (Corrado, 1990; Ylikorkala and Dawood, 1978).

4.1.2 Univariate associations between menstrual symptoms and other variables

Tables 4.1 and 4.2 show the associations between menstrual symptoms and age, parity, postcode-derived deprivation category, presence or absence of longstanding illness and hormonal contraceptive use. Sixty-nine women reported using an intrauterine contraceptive device and these were excluded from all analyses involving contraception because of the known association between intrauterine contraceptive device use (IUCD) and heavy periods (Brown and 1988; Cole et al, 1971; Coulter 1998). Our findings concur with this in that 46% of IUCD users (32/69) reported their menstrual loss as heavy or very heavy (data not presented).

It can be seen from table 4.1 that there was an increase in reporting heavy or very heavy periods with increasing deprivation, although this was not statistically significant. The increase in reports of very heavy periods with deprivation, however, was significant. Reporting severe pain increased markedly with deprivation. The associations between pain, age and parity were more complex. There was a tendency towards a higher prevalence of pain in the lowest and highest categories within age

and parity, i.e. amongst women aged under 30 or 35 and over, and amongst women with no children or with three or more children. However, in neither case were these differences between parity subgroups statistically significant. Reporting periods lasting eight days or more increased with age and parity but not with deprivation. Table 4.2 shows that reports of heavy or very heavy periods, severe pain and periods lasting 8 days or more were all more common in the presence of longstanding illness or in the absence of hormonal contraceptive use.

	Heaviness			Severe / v severe pain		Periods last 8 days or more	
	N	% heav/vheav	% v heavy	N	%	N	%
Age group							
Less than 30	519	31.8	3.3	505	15.8	522	4.8
30 to 34	666	30.2	4.2	655	12.1	667	5.2
35 to 39	688	38.1	5.4	675	15.1	687	6.7
40 to 45	672	40.3	7.7	665	15.2	675	8.9
TOTAL	2545	35.3	5.3	2500	14.5	2551	6.5
$\chi 2$	trend (1df)	16	13	Pearson (3df)	4.40	trend (1df)	9.8
p value		<0.001	<0.001		0.22		0.002
Parity							
0	918	25.8	2.9	897	16.6	924	3.4
1	488	34.8	5.3	482	13.1	488	5.3
2	760	41.7	7.6	743	12.7	752	8.6
3 or more	346	50.6	7.2	342	15.8	349	11.5
TOTAL	2505	35.8	5.4	2464	14.6	2513	6.4
$\chi 2$	trend (1df)	84	18	Pearson (3df)	6.50	trend (1df)	36
p value		<0.001	<0.001		0.09		<0.001
Postcode derived deprivation							
1 (least deprived)	543	34.3	3.5	531	10.2	543	6.1
2	935	33.6	5.3	915	12.6	937	6.5
3	341	36.1	5.6	339	15.3	344	6.4
4	587	38.5	6.0	583	18.5	589	6.5
5 (most deprived)	122	36.1	8.2	118	25.4	122	9.0
TOTAL	2528	35.3	5.3	2486	14.4	2535	6.5
$\chi 2$ trend (1df)		2.8	4.9		28.7		0.50
p value		0.093	0.028		<0.001		0.48

Table 4.1 Associations of reported menstrual symptoms with age, parity and postcode-derived deprivation

NB. Due to missing values for demographic variables, total n's in the table differ slightly from prevalence figures quoted in the text (2559 for heaviness, 2515 for pain).

	Heaviness			Severe or v severe pain		Periods last 8 days or more	
	N	% heav /v heavy	% very heavy	N	%	N	%
Longstanding illness							
Yes	592	44.8	7.8	576	21.9	592	10.1
No	1927	32.7	4.6	19.3	12.4	1934	5.4
TOTAL	2519	35.5	5.3	2479	14.6	2526	6.5
$\chi 2$ continuity correction (1df)		28	8.6		31		16
p value		<0.001	0.003		<0.001		<0.001
Contraception (IUCD users excluded)							
Hormonal	755	17.4	0.9	746	6.2	757	3.6
No contraception/ barrier /sterilisation	1711	42.8	7.1	1677	18.4	1715	7.2
TOTAL	2466	35.0	5.2	2423	14.7	2472	6.1
$\chi 2$ continuity correction (1df)		149	39		61		12
p value		<0.001	<0.001		<0.001		<0.001

Table 4.2
Associations of reported menstrual symptoms with longstanding illness and contraception

NB. Due to missing values for longstanding illness and contraception, total n's in the table differ slightly from prevalence figures quoted in the text.

4.1.3 Multivariate associations between menstrual symptoms and other variables

Socio-demographic characteristics (age, parity and postcode-derived deprivation), non-menstrual co-morbidity (measured by self-reported longstanding illness here) and hormonal contraceptive use were found to be univariately related to reporting menstrual symptoms, as described in section 4.1.2. In order to assess their joint effects, three different multivariate models were developed with outcome variables heavy (or worse) loss, very heavy loss and severe pain. Socio-demographic characteristics, longstanding illness and hormonal contraception were entered into the model jointly as for women in this study these two factors were inter-related. With age, parity increased and deprivation decreased (Spearman r = 0.4, -0.12, $p<0.001$, for both). There was a non-ordinal association of parity with deprivation (chi sq = 46, $p<0.001$) with women living in more affluent areas most often having two children, in those least affluent areas three children, and the middle group being predominantly nulliparous. However, amongst women aged less than 35 nulliparity was the mode regardless of deprivation, whereas amongst women aged 35 or over the mode was two children for all except those living in most deprived areas, where the mode was for three children or more. Reporting longstanding illness increased with deprivation (chi-sq for trend = 8.4 $p<0.004$). Use of hormonal contraception decreased with age, parity and longstanding illness, (chi-sq for trend = 261, 106, 12 $p<0.001$). There was a non-significant association between hormonal contraception use and deprivation.

Table 4.3 shows the results of multivariate logistic regressions for heaviness and pain when socio-demographic factors, longstanding illness and hormonal contraception were entered together. The chi-square statistic for goodness-of-fit of the overall model is presented at the head of each column. This is a measure of how well the model fits the data, based on the differences between the observed and predicted probabilities. In comparison with univariate associations, the effect of age on reporting heavy or very heavy periods was reduced when other variables had been adjusted for. Indeed, the association of age with reporting heavy or very heavy loss combined is now reversed such that age is protective. However, for very heavy loss alone its association with age is not significant when adjusted for other individual characteristic variables and menstrual symptoms. When variables were added individually to the model it was revealed that it was the addition of hormonal contraceptive use to the model that resulted in the effect of age being diminished (data not shown). Increasing parity remained a risk factor for reporting heavy or very heavy periods and it became significantly protective for reporting severe pain (again, mainly due to the addition of contraceptive status to the model). In the multivariate model, the associations of deprivation, hormonal contraception and longstanding illness persisted, as did the strongly protective association of hormonal contraception with both heaviness and pain. Overall, the model for reporting heavy or very heavy loss combined showed that hormonal contraception and, to a much lesser extent, increasing age were protective while deprivation, parity or longstanding illness were risk factors. In the model for reporting very heavy periods alone, by comparison, hormonal contraceptive use was even more strongly protective, and age showed no effect while deprivation, parity or longstanding illness remained risk factors. In the

model for reporting severe pain, hormonal contraceptive use and parity were protective while deprivation and longstanding illness were risk factors. Adjusted for the other variables in table 4.3, deprivation appears to be a slightly stronger risk factor for reporting painful than heavy periods.

	Heavy or very heavy loss combined χ^2=216, df=5, p<0.001		**Very heavy loss alone** χ^2=74, df=5, p<0.001		**Severe/v severe pain** χ^2=126, df=5, p<0.001	
	OR	95% CI	OR	95% CI	OR	95% CI
Age						
Per 5 year increase in age	0.89	(0.81 – 0.99)	1.11	(0.91 – 1.36)	0.93	(0.82 – 1.05)
Parity						
Per stepwise increase (0, 1, 2, 3 or more)	1.40	(1.28 – 1.53)	1.20	(1.00 – 1.44)	0.87	(0.77 – 0.98)
Postcode-derived deprivation (linear)						
Per stepwise increase in deprivation code (where 5 is most deprived)	1.08	(1.00 – 1.17)	1.17	(1.00 – 1.36)	1.30	(1.18 – 1.43)
Longstanding illness						
Yes vs no	1.62	(1.31 – 1.99)	1.66	(1.12 – 2.46)	1.73	(1.33 – 2.23)
Contraception						
Hormonal contraceptive use vs 'other', IUCD users excluded	0.31	(0.25 – 0.39)	0.11	(0.04 – 0.27)	0.25	(0.18 – 0.35)

Table 4.3
Multivariate logistic regression for reporting menstrual symptoms with socio-demographic characteristics, longstanding illness and hormonal contraceptive use

n = 2274 for all three analyses. Cases were excluded if there were missing values for either heaviness or pain to allow comparisons. (In addition, there were cases that could not be included in the analysis because of missing values for individual characteristic variables)

Shapley et al (2004) found a significant increase in self-reported heavy menstrual loss with age, although they provide no information about parity, contraception and socio-economic status, all possible confounders. Although no comparative data are available for associations between age, parity and self-reported menstrual symptoms, associations between age, parity and measured blood loss have been explored elsewhere. Hallberg et al (1966) measured blood loss amongst a community sample of 476 women at six different ages (15, 23, 30, 40, 45, 50 years). At the age of 50 the mean measured blood loss was higher than at the other ages, but the differences were not statistically significant, possibly because there was only a small number of menstruating women in the oldest age group (n=37). Cole et al (1971) found that measured blood loss was related to parity but found no variation in measured blood loss with age within parity groups, concluding that measured blood loss was related to parity but not age. Their sample included very few nulliparous women above the age of 25, however, and collected no socio-economic data, a possible confounder. Two studies found that parity was associated with measured blood loss only in women under the age of 25 (Hallberg et al, 1966; Rybo, 1966), suggesting that volume of loss was dependent on time since parity. However, they found no relationship between measured blood loss and age of youngest child, casting doubt on this hypothesis. Overall there has been little convincing evidence of an association between age or parity and measured blood loss, although many of the studies in this area have been small. None of the early studies used multivariate statistical methods to explore the relationship between age, parity and socio-economic status. In

addition, patterns of contraceptive use would have been very different at the time that these studies were carried out.

It is a commonly held belief that period pain improves after childbirth. However, Pullon et al (1988), found that the negative association between parity and period pain was no longer significant once age and smoking were controlled for. We observed a negative association between parity and period pain once contraception, age and other variables were adjusted for but this was not strong (odds ratio 0.87, 95% confidence interval 0.77 to 0.98). We were unfortunately unable to control for smoking.

The protective effect of the contraceptive pill in reducing menstrual symptoms has been widely described elsewhere (Brown et al, 1988; Pullon et al, 1988). The complex relationship between socio-economic status and menstrual symptoms will be discussed later, together with a discussion of the relationship between socio-economic status and reported menstrual 'problem'.

4.1.4 Prevalence of 'problem' periods

Periods were reported as a marked or severe problem by 552/2551 (21.6% (95% CI 20.1 to 23.2) of menstruating respondents (alternative responses being no or slight problem). This is a considerably smaller percentage than women who reported

menstrual symptoms. (Either or both of heavy (or very heavy) bleeding and severe pain were reported by 39% of respondents, as above). No other studies have asked about reporting periods as a problem so there are no comparative data available.

4.1.5 Univariate associations between 'problem' periods and other variables

Reporting periods as a marked or severe problem was univariately associated with age, parity, deprivation, longstanding illness and non-use of hormonal contraception (table 4.4). Age, parity and hormonal contraceptive use are inter-related, as discussed above, as are socio-economic status and general health. This will be dealt with by examining multivariate models of reporting periods as a problem with these factors entered jointly.

	Marked or severe problem	
	N	%
Age group		
Less than 30	515	18.4
30 to 34	667	19.0
35 to 39	684	22.4
40 to 45	670	26.0
TOTAL	2536	21.6
$\chi 2$ trend (1df)		12
p =		<0.001
Parity		
0	914	20.0
1	485	19.2
2	752	23.5
3 or more	347	26.5
TOTAL	2498	21.8
$\chi 2$ trend (1df)		7.6
p =		0.006
Postcode derived deprivation		
1 (least deprived)	540	16.9
2	929	20.3
3	344	22.7
4	589	26.5
5 (most deprived)	119	24.4
TOTAL	2521	21.5
$\chi 2$ trend (1df)		16
p =		<0.001
Longstanding illness		
Yes	593	31.2
No	1920	18.7
TOTAL	2513	21.6
$\chi 2$ continuity correction (1df)		41
p =		<0.001
Contraception		
Hormonal contraception	754	10.9
No contraception/barrier contraception or sterilisation	1704	25.9
TOTAL	2458	21.3
$\chi 2$ continuity correction (1df)		70
p =		<0.001

Table 4.4 Associations of reporting periods as a marked or severe problem with age, parity, postcode derived deprivation category, longstanding illness and contraception

NB. Due to missing values for individual characteristic variables, total n's in the table differ slightly from prevalence figures quoted in the text (2551 for problem).

4.1.6 Associations between 'problem' periods and menstrual symptoms

Reporting menstrual symptoms was, unsurprisingly, very strongly associated with reporting periods as a problem. The likelihood of reporting periods as a marked or severe problem increased with increasing heaviness of loss or pain (table 4.5). Amongst women who reported heavy periods, 37% reported their periods were a marked or severe problem. However, amongst women who reported very heavy periods, a far higher proportion (82%) reported a marked or severe problem. Amongst women reporting severe pain 75% said their periods were a marked or severe problem, only a slightly smaller percentage than for those with very heavy periods. Combined with the finding that nearly three times as many women reported severe pain than reported their periods as very heavy (366 compared with 135), this suggests that pain is a more significant symptom than heaviness in terms of the number of women reporting their periods as a problem.

Questionnaire response for menstrual symptoms	Reporting periods a marked or severe problem		
	Subgroup answering problem question	N reporting problem	%
Heaviness (n=2559)			
Light or moderate loss	1643	155	9.4%
Heavy loss	761	284	37.3%
Very heavy loss	133	109	82.0%
Pain (n=2515)			
No/slight pain	1209	89	7.4%
Moderate pain	926	173	18.7%
Severe/v severe pain	364	273	75.0%
Duration 8 days or more (n=2566)	165	100	60.6%

Table 4.5
Crosstabulation of reporting periods as a marked or severe problem with heaviness, pain and duration of periods

NB. Due to missing values, total n's in the table differ slightly from prevalence figures quoted in the text.

Figure 4.2 shows a schematic impression of the overlap between reporting heaviness, pain and 'problem' periods. This highlights how much smaller the number of women reporting very heavy loss is than the number reporting heavy loss as well as how many of the women who report heavy periods do not actually report their periods as a problem.

The likelihood of reporting periods as a marked or severe problem increased if more than one symptom was reported. Table 4.6 presents the percentages of women reporting their periods as a marked or severe problem separately for the various combinations of painful and heavy periods. It can be seen that, for all reported volumes of loss, the proportion reporting their periods as a problem increased dramatically in the presence of severe pain.

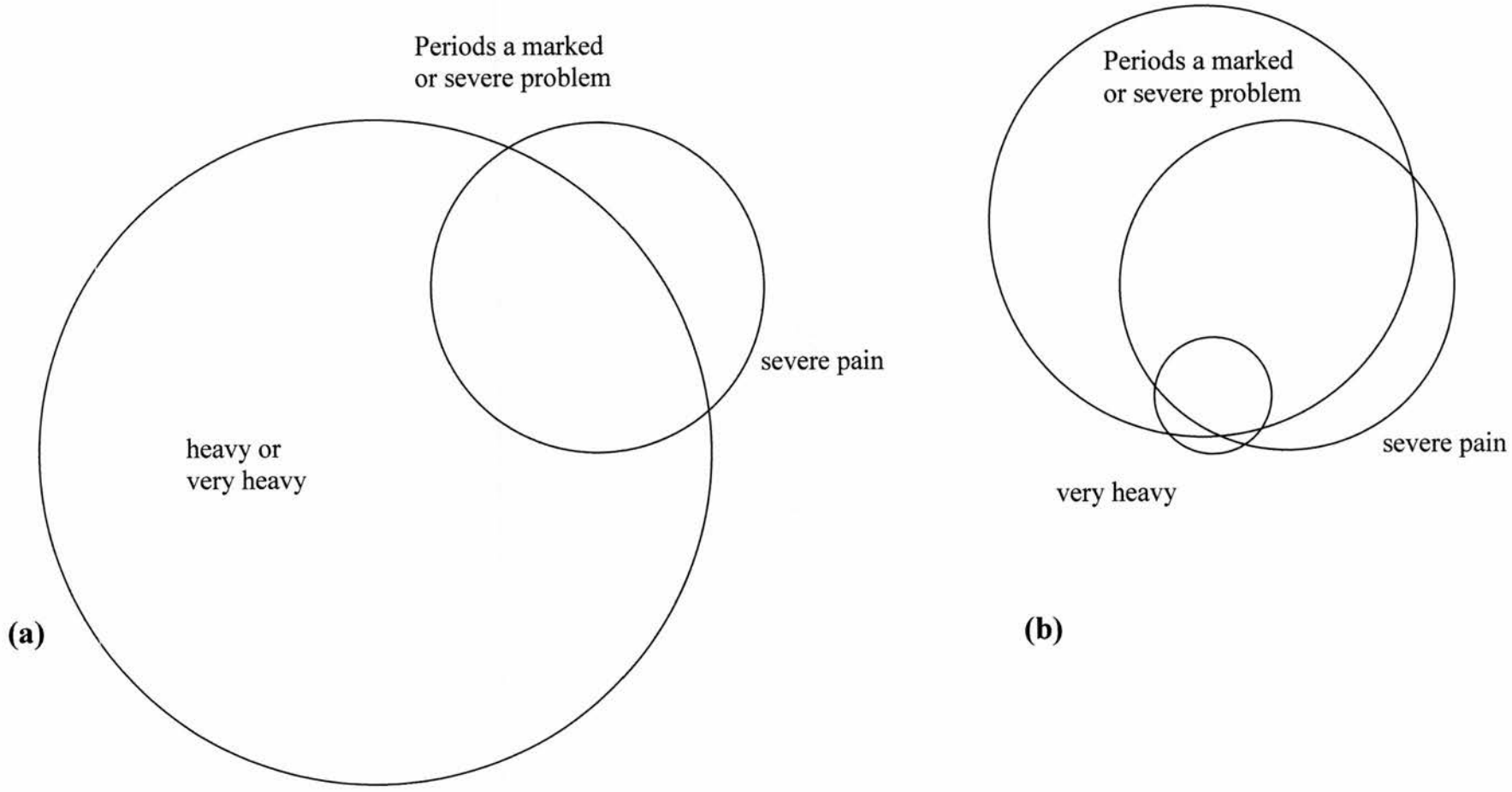

Figure 4.2
Schematic diagram of overlap between reporting periods as a marked or severe problem with severe pain and heaviness -- separately for: (a) heavy or very heavy periods; and (b) very heavy periods

	No/slight/moderate pain			Severe/v severe pain			Overall		
	N for subgroup	Reporting periods a marked or severe problem		N for subgroup	Reporting periods a marked or severe problem		N for subgroup	Reporting periods a marked or severe problem	
		N	%		N	%		N	%
Light/moderate loss	1525	101	6.6%	99	51	51.5%	1624	152	9.4%
Heavy loss	531	110	20.7%	201	161	80.1%	732	271	37.0%
Very heavy loss	67	48	71.6%	63	60	95.2%	130	108	83.1%
All	2123	259	12.2%	363	272	74.9%	2486	531	21.4%

Table 4.6
Percentage of women reporting periods as a marked or severe problem by different levels of heaviness and pain

The cumulative overall n is less than the total n for those answering questionnaire and menstruating (n=2574) because of missing data for 'pain', 'volume of loss' and 'problem' questions.

4.1.7 Multivariate associations between 'problem' periods, menstrual symptoms and other variables

In order to examine joint associations between reporting 'problem' periods' menstrual symptoms and other factors, a multivariate logistic regression model was developed in two stages (table 4.7). Socio-demographic characteristics, longstanding illness and hormonal contraception were entered into the model jointly before assessing the relevance of menstrual symptoms. The chi-square goodness-of-fit statistic given at the head of each column represents the improvement in model fit for each step.

It was shown earlier (table 4.4, page 179) that age, parity, deprivation category, longstanding illness and hormonal contraceptive use were all univariately associated with reporting periods as a problem. When their effects were assessed jointly (table 4.7, step1), the associations of age and parity with 'problem' were reduced such that they were no longer statistically significant. It is of note that parity was a risk factor for reporting heavy periods but was protective for reporting painful periods. Although on univariate analysis there was a trend towards increasing parity being associated with increased reports of 'problem' periods, the absence of association on multivariate analysis suggests that the opposing effects of parity on heaviness and pain may have cancelled each other out. Increasing deprivation score and reporting longstanding illness remained risk factors for reporting 'problem' periods while hormonal contraceptive use remained protective.

	Reporting periods as a marked or severe problem			
	Step 1 χ^2(step)=116 df=5, p<0.001		Step 2 χ^2(step)=674, df=3, p<0.001	
Age				
Per 5 year increase	1.03	(0.92 - 1.14)	1.08	(0.94 - 1.24)
Parity				
Per stepwise increase (0, 1, 2, 3 or more)	1.07	(0.97 – 1.19)	1.13	(0.99 – 1.28)
Postcode-derived deprivation score				
Per stepwise increase in deprivation code (where 5 is most deprived)	1.19	(1.10 - 1.30)	1.08	(0.96 - 1.20)
Longstanding illness				
Yes vs no	1.80	(1.44 – 2.26)	1.48	(1.11 – 1.98)
Contraception				
Hormonal contraceptive use vs 'other' (IUCD users excluded)	0.37	(0.28 – 0.49)	0.71	(0.51 - 0.98)
Heaviness				
V heavy vs light/moderate/heavy loss			13.9	(8.02 – 24.1)
Pain				
Severe/v severe vs no/slight/moderate			20.6	(15.0 - 28.1)
Duration of period				
8 days or more vs. 7 days or less			5.14	(3.24 - 8.17)

Table 4.7
Multivariate logistic regression for reporting of periods as a marked or severe problem:

N=2274

Stage 1 includes socio-demographic characteristics, longstanding illness and hormonal contraceptive use and Stage 2 adds symptom variables. Interaction terms were tested for but none were found to be statistically significant.

Adding reported very heavy loss, severe pain and duration of periods to the model resulted in a highly significant improvement in fit. Once menstrual symptom status was available to the model, the importance of deprivation, longstanding illness and hormonal contraception were diminished, with only the effects of longstanding illness and hormonal contraception remaining statistically significant. This suggests that longstanding illness and hormonal contraception were not only associated with reporting of menstrual symptoms but, for a given level of symptoms, were also associated with reporting a problem.

Both very heavy loss and severe pain are needed in the model to explain reporting periods as a problem, which means they have cumulative effects. This can be exemplified by calculating, from their separate odds ratios (13.9 and 20.6) the odds ratio for reporting periods as a problem if both very heavy loss and severe pain are present, that is 286. Interaction (non-additivity) between variable coefficients was tested by adding an interaction term to the model, but this made almost no improvement to model fit (chi-sq = 1.55, 1df, $p>0.25$), and the significance of the interaction coefficient was $p=0.174$. (However we should be cautious in interpreting this because in such models interaction terms are less powerfully tested than main effects.) In this model with interaction fitted the odds ratio for 'problem' if both very heavy loss and severe pain were present was 134. So by either method of obtaining an estimate of effect of combined symptoms the odds ratio is very high (at least 134).

In table 4.5 (page 180) it was reported that the percentages reporting 'problem' periods increased markedly with very heavy periods compared to heavy (37% vs. 82%). I have therefore presented multivariate modelling for 'very heavy loss'. If 'heavy loss' (or worse) was entered instead of 'very heavy loss', however, the resulting model differed little in terms of model fit or odds ratios for other variables but the effect of heaviness on reporting problem periods was much diminished (odds ratio 4.2, 95% confidence interval 3.2 to 5.5).

There is no existing literature on the epidemiology of reporting menstrual 'problem'. Therefore, although the relationship between socio-economic status and menstrual symptoms or 'problem' will be discussed here, it will not be possible to relate findings for the latter to existing data. As discussed in chapter two (page 85), a relationship has been demonstrated between socio-economic status and hysterectomy rates (Coulter and McPherson, 1986; Kuh and Stirling, 1995; Vessey et al, 1992; Settnes and Jorgensen, 1996) and between socio-economic status and consulting GPs about menstrual problems (Royal College of General Practitioners, 1990). Although evidence exists that socio-economic factors influence period problems at the level of help-seeking and treatment preference (Coulter et al, 1994), there is only slim evidence (Blaxter, 1987) of a socio-economic influence on population reports of symptoms.

As reported in the multivariate analyses for reporting menstrual symptoms (table 4.3, page 175), postcode-derived deprivation was associated with reporting heavy periods (for 'very heavy loss' odds ratio 1.17, 95% confidence interval 1.0 to 1.36) or painful periods (odds ratio 1.30, 95% confidence interval 1.18 to 1.43). In table 4.7 (step 1) it was shown that deprivation was also associated with reporting 'problem' periods prior to adding menstrual symptoms to the model (odds ratio 1.19, 95% confidence interval 1.10 to 1.30). Therefore, the relationship between deprivation and pain was slightly stronger than the relationship of deprivation with very heavy loss or deprivation with 'problem' periods. Table 4.7 (step 2) showed that, once menstrual symptoms were added to the model for reporting 'problem' periods, the strength of association between 'problem' and deprivation was diminished, and no longer statistically significant. This suggests that the importance of deprivation, evident in step 1 of the model (table 4.7) was an indirect indicator of menstrual symptoms. However, a trend (though not statistically significant) did persist in the relationship between socio-economic status and reporting periods as a problem once menstrual symptoms were controlled for, suggesting that, for a given level of symptoms, women living in more deprived areas may have a slightly increased odds of reporting periods as a problem.

We have investigated the experience of problematic periods in a detailed way using previously validated questions regarding menstrual symptoms, which have the advantage of consensus validity (being presumed to have 'meaning') to researchers and health professionals dealing in menstrual health. However, they have the

disadvantage that they may not reflect very well what women experience as a problem and we did not ask about one aspect of menstrual problem, 'PMS'. Further information is available from the first (screening) questionnaire which may better reflect what women experience as a problem as they were invited to respond to a free text question.

4.2 What bothers you most about your periods: responses to free text question

A free text question asking, 'What bothers you most about your periods,' was included in the first (screening) questionnaire in order to explore what constituted 'problem' periods from a different angle and in women's own terms. As discussed in chapter three, this is not truly quantitative data, and any quantitative treatment of it should therefore be approached with caution. However, it is interesting to compare the responses to this free text question with the results of the fixed choice questions.

Coding this question was not straightforward due to the difficulty in dividing the wide variety of responses into distinct categories. For instance, it was difficult to differentiate tiredness from mood changes, as many written responses could be interpreted as either such as 'feeling lousy', 'can't be bothered with anything', 'PMT', or 'feeling crap'. Therefore, I coded all of these as 'mood changes / tiredness'. I developed a separate code ('general') which was used for more

responses regarding practical issues such as 'hassle', 'cost', 'don't like tampons so have to wear pads', or 'everything'. Very few women wrote that the length of their periods was their main bother so this was included with the category which included irregularity and other matters related to the timing of periods. A small number of women wrote 'nothing' or referred to past problems which had settled. These were initially assigned a separate code but, as they were so few, were eventually analysed together with non-responders to this question, on the (perhaps unfounded) assumption that many of the latter were probably also not very bothered by their periods. A category including responses referring to 'accidents' could have been included with 'heavy', but some women had written 'worrying about accidents', which could perhaps refer to anxiety or social constraints rather than necessarily be associated with heaviness, so this category was left separate.

A quarter of respondents (25% (653/2574)) left this question blank or wrote 'nothing'; 43% (1106/2574) wrote in one thing that bothered them; 25% (651/2574) wrote two things and 6% (164/2574) wrote three or more things. Table 4.8 shows the distribution of responses to this question. Pain was the most frequently written response (22% wrote 'period pain', 'stomach cramps', 'backache' or similar) closely followed by mood changes / tiredness (18% wrote 'PMT', 'irritability', 'poor concentration', 'tiredness', 'unwell' or similar). Other symptoms were less frequently written in; irregularity or other aspects of timing (9% wrote 'unpredictability', 'duration', 'spotting' or similar), heaviness (8% wrote 'heaviness', 'amount of loss', 'clots', 'flooding' or similar) and general inconvenience (8% wrote 'interruption in usual activities', 'having them', 'hassle', 'everything', 'cost' or

similar). Data are presented on the basis of participants' first response in order to avoid any clustering effects. Looking at whether an item was written in at all, rather than just written in as the first item, made little difference to the relative frequencies of the different responses.

First item written in	Frequency	% of women with periods in last 6months
Pain	567	22.0
Mood changes / tiredness	457	17.8
Irregularity	229	8.9
Heaviness	209	8.1
General inconvenience	200	7.8
Breast pain/swelling	111	4.3
Accidents	24	0.9
Other	124	4.8

Table 4.8
What bothers you most about your periods?
First (screening) questionnaire free text responses of all women who had menstruated in the past 6 months

n = 2574 (653 (25.4%) of whom did not respond to this question)

Just as we found there were more women reporting severe pain than very heavy periods on fixed choice questions (table 4.5), more women were noting pain, rather than heaviness, as the thing about their periods that most bothered them. Those who wrote in one response or more may differ from others, for instance in motivation to complete the questionnaire, or in literacy. The large amount of missing data for this question is therefore very unlikely to have occurred randomly, limiting the generalisability of these findings. However, responses to this question highlight the importance of pain and PMS to women in a population sample and that heaviness seemed to be 'bothersome' for fewer women.

Data presented so far have been drawn from the first (screening) questionnaire which was designed to be as brief as possible in the hope of maximising the response rate. More information regarding menstrual experience, including PMS, is available from the second (detailed) questionnaire and I shall now move on to an analysis of these data in order to further explore women's experiences of periods and what factors were important in perceiving periods as problematic. It is important to bear in mind, however, that data from the second questionnaire represents only women who reported heavy or very heavy periods on the first questionnaire. Furthermore, women who completed the second questionnaire had responded to not just one but two questionnaires.

4.3 Detailed questions about menstrual experience: principal component analysis

We have investigated the experience of problematic periods using both fixed choice questions and free text responses. The latter showed that PMS was a 'bother' to a substantial number of women. PMS had not been included in the fixed choice questions on the first (screening) questionnaire but was included in the more extensive questions in the second (detailed) questionnaire. Eighteen detailed questions asked about different aspects of menstrual experience and whether these were a problem (on a five-point scale of 'does not happen', 'happens but no problem', 'slight problem', 'marked problem', 'severe problem') (see questionnaire in appendix 2, page 356). These included three different items about heaviness, three about pain and a broad range of other questions covering areas such as mood changes, other bodily changes, worry about changes, two questions regarding interruption to sex life and two regarding general impact of periods ('interruption to daily life' and 'feeling generally unwell / tired'). Figure 4.3 represents the distribution of responses to these questions. The items most frequently reported as a marked or severe problem were; 'mood changes' (45%), 'pain with periods' (41%), 'feeling generally unwell or tired' (37%), 'other bodily changes' (37%) and 'amount of blood more than it used to be' (33%).

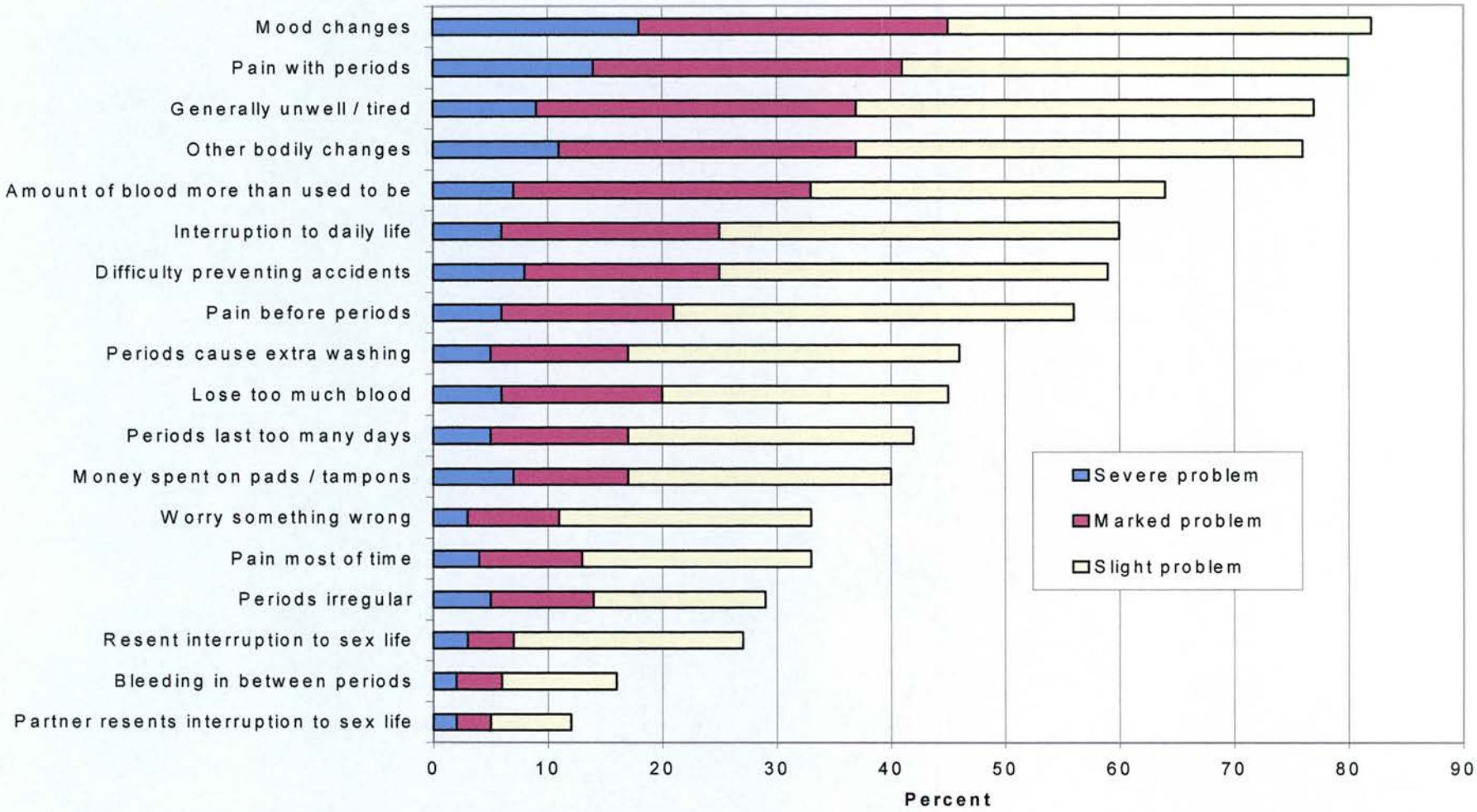

Figure 4.3
Responses to detailed questions regarding menstrual experience

The variables 'you resent interruption to sex life' and 'partner complains about interruption to sex life' both had large amounts of missing data (20% and 22%), presumably because they were only completed by respondents currently in a sexual relationship. This missing data would therefore not be absent in a random pattern, leading to a possible skewing in multivariate analyses involving these variables where missing data are excluded. These variables were therefore not included in subsequent principal component analyses.

Table 4.9 presents the univariate and multivariate relationships of these variables (reported on the second questionnaire) with reporting periods as a problem (as reported on the first questionnaire). It is problematic to look at relationships between reported symptoms at a second time point compared with a first time point (as discussed in chapter 3, page 104). It can be seen that all items are univariately associated with reporting periods as a problem. On multivariate logistic regression those that remain significantly associated with reporting periods as a problem are 'feeling generally unwell or tired', 'amount of blood loss more than used to be', 'interruption to daily life' and 'pain before periods'. However, the large number of variables, many of which are closely correlated, means that this may not be the most efficient way of analysing these data. A principal component analysis of these questions was therefore carried out in order to investigate the constructs underlying experiences of problematic periods amongst women who have reported heavy

menstrual bleeding. These components were then presented to a multivariate logistic regression model to assess their relative importance in predicting reporting periods as a problem amongst women who had reported heavy periods.

	Univariate association with reporting periods as a marked or severe problem OR (95% CI)	Multivariate association with reporting periods as a marked or severe problem* OR (95% CI)
Generally unwell / tired	3.59 (2.83 – 4.55)	1.87 (1.27 – 2.77)
Amount of blood more than used to be	2.03 (1.74 – 2.38)	1.37 (1.04 – 1.80)
Interruption to daily life	2.83 (2.35 – 3.41)	1.81 (1.34 – 2.45)
Bleeding in between periods	1.31 (1.10 – 1.56)	0.91 (0.67 – 1.24)
Periods irregular	1.35 (1.18 – 1.55)	0.89 (0.70 – 1.13)
Pain with periods	2.40 (1.98 – 2.90)	1.19 (0.86 – 1.65)
Other bodily changes	2.20 (1.83 – 2.65)	1.07 (0.80 – 1.45)
Money spent on pads/ tampons	1.43 (1.22 – 1.69)	1.12 (0.83 – 1.50)
Pain before periods	1.88 (1.57 – 2.13)	1.37 (1.05 – 1.79)
Worry something wrong	1.83 (1.57 – 2.13)	1.25 (0.96 – 1.64)
Difficulty preventing accidents	1.93 (1.66 – 2.25)	1.34 (0.99 – 1.80)
Periods last too many days	1.52 (1.33 – 1.74)	0.94 (0.74 – 1.20)
Periods cause extra washing	1.89 (1.61 – 2.22)	0.98 (0.72 – 1.34)
Pain most of time	1.62 (1.41 – 1.86)	0.91 (0.70 – 1.17)
Mood changes	1.97 (1.66 – 2.35)	1.23 (0.93 – 1.64)
Lose too much blood	2.01 (1.73 – 2.33)	0.99 (0.74 – 1.33)
Resent interruption to sex life	1.61 (1.34 – 1.94)	1.13 (0.82 – 1.54)
Partner resents interruption to sex life	1.27 (1.06 – 1.52)	0.67 (0.49 – 0.93)

Table 4.9
Associations between periods as a problem (reported on the first questionnaire) and detailed questions regarding menstrual experience (reported on the second questionnaire)

* In the multivariate analysis all items in this list were entered together in a logistic regression analysis.

A matrix showing the correlations between all these variables revealed that many items were closely correlated with each other. Preliminary analyses showed that the variable 'money spent on pads / tampons' was not well accounted for by extracted components. In principal component analysis, any component which accounts for less variance than one of the original variables is unlikely to be more useful than the variable itself in accounting for overall variance. 'Money' was therefore excluded from subsequent principal component analyses to be presented separately to a multivariate logistic regression model.

A principal component solution was developed comprising five components accounting for 67% of the variance. This was subjected to varimax rotation to improve interpretability of components. The loading of the variables onto the five components is shown in table 4.10.

	Components				
Variables	**1**	**2**	**3**	**4**	**5**
	Impact of volume	Pain	Cyclic changes	Worry about change	Irregular periods
Generally unwell / tired		0.518	0.562		
Amount of blood more than used to be	0.390			0.692	
Interruption to daily life	0.480	0.389	0.344		
Bleeding in between periods					0.831
Periods irregular					0.753
Pain with periods		0.695	0.417		
Other bodily changes			0.792		
Pain before periods		0.527	0.444		
Worry something wrong				0.705	
Difficulty preventing accidents	0.795			0.308	
Periods last too many days	0.307			0.567	0.318
Periods cause extra washing	0.820				
Pain most of time		0.850			
Mood changes			0.719		
Lose too much blood	0.570			0.541	

Table 4.10
Rotated component matrix of detailed menstrual experience variables showing how variance of each loads on to components 1 to 5 (sex variables and money excluded)

Values less than 0.30 not shown

Given the key variables correlated with the components they could be labelled as:

1. Impact of volume (extra washing / unavoidable accidents / lose too much blood / impact on daily life)

2. Pain (pain most of time / pain with periods / pain before periods / generally unwell or tired)

3. Cyclic changes (other cyclic bodily changes / mood changes / generally unwell or tired / pain before and with periods)

4. Worry about change (worry recent change is sign of something wrong/ amount more than used to be / too many days / lose too much blood)

5. Irregularity (bleeding between periods / irregular periods)

It is noteworthy that the 'feeling generally unwell / tired' variable loads on both pain and cyclic change components, that 'interruption to daily life' loads fairly highly on all the first three components, and that 'pain before periods' and 'pain with periods' load quite highly on the cyclic change component as well as the pain component.

Component scores are continuous variables with distributions ranging from approximately minus three to plus three. The component scores were offered to a multivariate logistic regression for reporting periods as a problem together with the 'money' variable. Associations could be confounded by age, parity, socio-economic

status, longstanding illness or hormonal contraceptive use, all of which have been shown to be associated with reporting periods as a problem. A step-wise model taking account of these individual characteristic variables was therefore developed and is shown in table 4.11. This analysis is restricted to women reporting their periods as heavy or very heavy, unlike the previous multivariate models presented which included all women who had responded to the first (screening) questionnaire. It can be seen in step 1 that limiting the analysis to those reporting heavy or very heavy loss alters relationships between individual characteristic variables and reporting periods as a marked or severe problem. In general, all the confidence intervals are wider than analyses presented earlier, as a result of the smaller number of women in this analysis. Furthermore, within this subgroup, age appears to be positively associated with reporting periods as a problem and reporting longstanding illness no longer appears to be associated with reporting periods as a problem. Step 2 shows that, adjusting for individual characteristic variables, each unit increase in the component scores representing impact of volume, pain, cyclic changes and worry approximately doubles the odds of reporting 'problem' periods. An increase of two in the component score would approximately quadruple the odds of reporting a problem, as would an increase of one in two different components.

	Reporting periods as a marked or severe problem			
	Step 1 χ^2=27, df=5, p<0.001		Step 2 χ^2(step)=179, df=6 p<0.001	
	OR	95% CI	OR	95% CI
Age				
Per 5 year increase in age	1.23	(1.02 – 1.49)	1.23	(0.96 – 1.57)
Parity				
Per stepwise increase (0, 1, 2, 3 or more)	0.93	(0.78 – 1.11)	0.79	(0.63 – 0.98)
Postcode-derived deprivation score				
Per stepwise increase in deprivation code (where 5 is most deprived)	1.31	(1.13 – 1.53)	1.16	(0.97 – 1.40)
Longstanding illness				
Yes vs. no	1.23	(0.83 – 1.81)	0.74	(0.45 – 1.21)
Contraception (IUCD users excluded)				
Hormonal contraceptive use vs 'other'	0.49	(0.27 – 0.89)	0.63	(0.30 – 1.32)
Component 1 (impact of volume)			2.30	(1.77 – 2.98)
Component 2 (pain)			2.33	(1.82 – 2.99)
Component 3 (cyclic changes)			2.84	(2.17 – 3.71)
Component 4 (worry about change)			1.87	(1.46 – 2.39)
Component 5 (irregular periods)			1.23	(0.98 – 1.54)
Money			0.91	(0.70 – 1.17)

Table 4.11
Multivariate logistic regression for reporting periods as a marked or severe problem including principal components plus 'money' variable and controlling for individual characteristic variables

N=515

NB. Reporting periods as a marked or severe problem and individual characteristic variables were all derived from the first questionnaire. Detailed questions and components were derived from the second questionnaire, sent only to women who reported heavy or very heavy loss on the first questionnaire. This analysis is therefore restricted to women who reported heavy or very heavy loss.

Interaction terms were tested for but none were found to be statistically significant.

We were able to show in our previous analysis of simple fixed choice questions that, amongst all respondents to the first (screening) questionnaire, experiencing a combination of symptoms (mainly pain and heaviness) had a cumulative effect on reporting periods as a problem. What this analysis adds is that, amongst women reporting heavy loss, cyclic changes also influence reporting periods as a problem. Furthermore, amongst this group, a perception of greater impact of volume or worrying over a recent change in volume of loss also increase the likelihood of reporting periods as a problem.

Having explored available quantitative data on reporting heavy menstrual bleeding and 'problem' periods, I shall now turn to the available qualitative data on women's perceptions of these.

4.4 How did women judge periods as 'heavy'? Qualitative findings

There have been suggestions elsewhere that women refer to 'heaviness' of periods to denote a range of issues (O'Flynn and Britten, 2000). This section will explore how women in this study used the term 'heavy' in qualitative interviews and how periods were judged to be 'heavy'. In the following section I will explore women's use of the term 'problem' with respect to periods and judgements regarding this.

In considering any data it is important to remember on what basis and how they were produced. Women who completed the second (detailed) questionnaire were asked to provide contact details if they were happy to take part in an interview. All women who took part in qualitative interviews had, therefore, reported their periods as heavy or very heavy on the first (screening) questionnaire, responded to a second questionnaire and written down contact details (see table 3.3, page 153). Purposive sampling on the basis of questionnaire responses meant that interviewees represented a range of those who had and had not reported pain as well as those who had and had not consulted. Because of this, interviewees were slightly more symptomatic and more likely to have consulted than questionnaire respondents in general (table 3.8, page 157). Qualitative data regarding perceptions of periods as 'heavy' or 'a problem' arose throughout the interviews in relation to discussion of other issues as well as in response to specific questions. If someone spoke about her periods as 'heavy' I asked her to clarify this by asking, "How can you tell that your periods are heavy?"

Overall, women seemed to find it difficult to decide whether periods were 'heavy' or not and referred to several factors in influencing this decision: what was normal for them; how easily they were able to cope with blood loss (for instance, type of sanitary protection, frequency of changing and accidents) and; pattern of loss (for instance presence of clots or flooding). Reference was also made to difficulty in comparing volume of loss with others.

Women often assessed heaviness in more than one way, for instance with reference to personal norm as well as sanitary protection. Data excerpts below may therefore illustrate more than one way of judging heaviness. Katherine refers both to judging heaviness in terms of her personal norm and to the difficulty of judging heaviness in any other way.

> *Miriam:*
> *And how heavy is it now?*
> *Katherine:*
> *Em, it's very difficult to quantify because it's not something you really discuss in lots of detail so I don't know I can... I can, I only know compared to what I usually have that well em, I mean, well I suppose the major difference now is that I can't use just tampons, I have to have pads as well...*

Judgements of 'heaviness' on the basis of personal norm could change as a result of subsequent experience, described here by Fiona.

> *Miriam:*

> *So two days heavy that time as well? [talking about most recent period]*
> *Fiona:*
> *Uh-huh yes. But not as heavy as the last time, I would say the last time it was very heavy and I probably should have written that, although I thought that was heavy then the last period I realised that that wasn't really as heavy as it could get. So I would say the last period was very heavy actually.*

Women also spoke about heaviness in terms of how difficult it was to 'cope with' or 'manage' their blood loss. Interviewees spoke about assessing volume of loss by counting number and absorbency of sanitary products, or referred to pads or tampons lasting specific lengths of time. Women also spoke in more general terms about other adjustments they had to make to deal with heavy blood loss, for instance having to be near a toilet, having to get up at night to change or check sanitary protection and the occurrence, or fear of, 'accidents' (blood leaking onto clothes or bedding). For example, Kirsty speaks here in terms of absorbency of products, frequency of changing them and having to get up at night.

> *Miriam:*
> *And how can you, I mean this sounds like an obvious question but how can you tell that they are heavy?*
> *Kirsty:*
> *Oh I see what you mean as in comparing to what? Yeah, em, well I say they are heavy because I can get through a superplus tampon in three hours or something kind of thing and then I'll still leak onto a pad as well. You know, so I do have to pretty much frequently change it and I do have to get up in the night sometimes to change as well. Kind of thing, so I mean to me that's heavy [laughs].*

Patricia emphasises this point, judging her periods to be heavy on the grounds that the highest absorbency products do not 'cope' with them.

Miriam:
And how is it that you know that they are heavy?
Patricia:
It's really hard to tell actually because you can't compare with anybody else. Em, but I know that if I use, I have to use the highest absorbency tampon em, I use Tampax Superplus and the highest absorbency pads, em, and that still doesn't cope with it that well.

Pattern of menstrual blood loss was also a feature of women's descriptions of 'heaviness'. Flooding, clots, 'lumps' or 'blobs' caused practical difficulties in containing blood loss and were thought to indicate heaviness. Practical difficulties were caused by flooding due to its unpredictability as well as its being difficult to contain. Sheila is particularly clear in judging that her periods are now less heavy because she no longer experiences clots as before.

Miriam:
And you said they were less heavy, in what way do you actually notice the difference?
Sheila:
Well there's no as big clots there, and at least I can stand and get washed and everything, before it was just running right all doon and I couldnae stand it just because ken what I mean, but I can get washed and that noo, it's no as bad. Because when I had a bath, one time I felt like a ooh like that [indicates rapid flow with hands], it was big clots of blood like that but the pill has definitely helped it a bit.

Although women justified their descriptions of their periods as heavy in a variety of ways, discussions with others was not usually one of them. I asked interviewees whether they had spoken to others about periods and, if so, what sorts of things had been discussed. Although most women had spoken to others, amount of blood loss was less frequently mentioned as a subject for discussion than other aspects of

menstrual experience. Kirsty initially said that she did not really speak to others about periods, apart from her mother, and therefore did not really know whether hers were heavy in comparison with other women. During the course of the interview it became apparent that she had spoken to others about period pain, painkillers and disposal of sanitary products but, although thinking her periods might be heavier than most, she had not discussed this aspect of periods with her friends and flatmates.

> *Miriam:*
> *And apart from your mum and M, have you discussed [periods] with anyone else?*
> *Kirsty:*
> *Em, not really. I mean my friend A and I would kind of discuss things a bit as well, and there is another A, but just generalities, never really on a really personal level or anything. I mean that's another thing I suppose I've never really talked to people very personally about that kind of thing, it's just I suppose it's kind of quite personal so even though we are really good friends we don't often talk about that kind of thing, you know. Or at least I don't, I'm a bit inhibited that way I suppose.*
> *Miriam:*
> *So what did you talk about with them?*
> *Kirsty:*
> *Em, well I think it was a bit more generalities. I mean I suppose certainly with M and my mum I mean I have said my periods are quite sore and stuff but never really said like that they are really heavy or anything like that or asked about what theirs were like or really kind of like discussed it you know in a way that would give me an overall impression of what other people feel about their periods and stuff it's just like oh I've got a really sore stomach it's my period time again and those types of things, but never anything like big discussions about it.*

Only four women (Christine, Diane, Irene and Ruth) said they had felt able to compare their loss with others. Irene commented that her blood loss did not seem as heavy as that of some patients she had encountered during her professional

experience as a nurse, while raising the point that her experience was unusual in allowing direct comparison.

> *Miriam:*
> *So you decided not to go and see your GP when it changed. Em, is there anything that might make you decide to go?*
> *Irene:*
> *No I don't think so. No and I mean being a nurse as well I see a lot of people and I go to a lot of disabled people and you know I'm dealing with them when they have their periods and I know that people, what happens to people you know and I can see that some people have a very heavy flow and I can see people with a very light flow so I feel like I have a little bit of knowledge whereas other people, well it's not, I would think the majority of people haven't seen anybody else during their period, you know, in an intimate way.*

Christine, Diane and Ruth were the only other interviewees who spoke about comparing their blood loss with family members or friends and said they did so in terms of number of pads or tampons used. Ruth speaks in this data excerpt about comparing heaviness of loss with friends (in terms of sanitary products used and frequency of having to go to the toilet) as well as comparing the impact of periods in more general terms (such as time off school).

> *Miriam:*
> *So what is it that makes you think that yours are heavier than other peoples?*
> *Ruth:*
> *Em, I know I've always had fairly heavy periods. When you talk about how many sanitary towels or tampons people use I seem to use a lot more than anybody else. I have to go to the toilet more often than anybody else and I was always off sick more. At school I used to be off regularly, and that didn't happen to anybody else. So I just presumed it was worse.*

Overall, many women found it hard to say whether their periods were heavy or not and in reaching this decision they referred to a number of different factors (personal norm, difficulty coping with blood loss and pattern of loss), although not, generally, discussions with others.

4.5 How did women judge periods as a 'problem'? Qualitative findings

Qualitative data regarding perceptions of periods as a 'problem' arose throughout the interviews as well as in response to specific questions. If interviewees spoke about periods as a problem I asked them to elaborate on this. After interviewees had provided an initial account of the history of their periods I asked, "At what stage did you feel that your periods were a problem (or not) and why?" If they had not given an impression of their periods as a problem I asked 'Do you think of periods as a problem at all?' or similar. Towards the end of the interview, I asked, "How much of an issue have your periods been for you over the years," which often led to further elaboration on the degree to which periods were, or had been, a problem.

Interviewees generally seemed to find the judgement of whether periods were a problem more straightforward than judgements about whether periods were heavy. Women spoke almost exclusively about the effect of symptoms on everyday life in discussing periods as a problem. The issues presented above, such as ability to cope with blood loss, were sometimes used to justify a judgement of periods as a problem

but by far the most salient issue in determining whether periods were a problem was their impact.

> *Miriam:*
> *What exactly was it that made you start to think that it was a bit of a problem?*
> *Katherine:*
> *Because it got difficult to deal with in normal every day activities and I think that is it. When it got difficult to deal with yeah. When I had to change my life even if it's only slightly to accommodate it you know and to always have that kind of, I think the worst thing is always having that fear in the back of your mind that kind of, because what actually happens it tends to come in fits and starts in a sense so that when I'm kind of flooding it comes as kind of like quite a lot of clots together so it's not something you can anticipate, it's not something you can plan for, it's just something you've got to deal with there and then and it's not always convenient to deal with it there and then.*

Concern about their ability to fulfil their usual roles at work or in the home seemed to be the defining factor in women's discussions of the impact of symptoms.

> *Miriam:*
> *And what is it that made you start to feel there was a problem, do you think?*
> *Joanne:*
> *Em, maybe havin' tae take time off my work more than once or twice, or bein'... bein' more short-tempered with the kids as well. And it's only been in the past couple of years that they've been comin' earlier as well, em, so yeah, just those things.*

Judging periods as a problem was a decision which women seemed to feel qualified to make on the basis of impact of symptoms on their lives. What was often less clear was exactly what aspects of their periods were contributing to this overall impact, as

an interview might cover a combination of symptoms, or symptoms and circumstances, and their impact on everyday life. Even where I asked interviewees to try to define which symptoms were problematic this still resulted in a mixed picture.

> *Miriam:*
> *Out of those things, the moodiness, the bloating, the heaviness and the pain that you get, which of those do you actually find a bit of a problem?*
> *Anita:*
> *Em, I would say the heaviness particularly when I am working is a problem. And also not so much the pain, the bloatedness in my stomach, I can manage that but the pains in my legs are very difficult when I'm working because I am on my feet for 12 and a half hour shifts and that is a long time when your legs are aching. And I'm always, because I wear a white dress, I'm always petrified in case I leak and embarrass myself onto my dress. It's probably not going to happen but you do get a bit paranoid.*

The overall impact of menstrual symptoms was also linked to other factors, mainly social context (such as employment status, type of work, whether the interviewee had children) and non-menstrual co-morbidity. For instance, Megan was concerned that lack of sleep due to pain if a period started at night would leave her unable to work the following day. Conversely, Patricia regularly slept on the (wipeable) sofa during her period in order to avoid staining her bedlinen but did not seem to view this as a problem. She said that her sleep was poor anyway as a result of chronic depression and that her heavy periods were far less of a problem than her depression. For Jane, the impact of the irregularity of her periods was made far worse by her having been trying for a pregnancy for many years. The disappointment of the arrival of each period was exacerbated by its sometimes arriving quite late, meaning that she had started to hope that she might indeed be pregnant.

Not everyone who spoke about their periods as heavy seemed to view this as a problem. Sophie and Leah said they had had heavier periods since using IUCDs but both felt that this was worthwhile because it was the best contraceptive for them at that time. It could be that having a clear explanation for why their periods were heavier meant that they were viewed as less problematic. Alternatively, knowing that the IUCD could be removed and that this would probably reduce the heaviness may have meant that it was viewed less negatively. Sophie also referred to having two small children as reducing the impact of heavy periods as she had less time for sport.

> *Miriam:*
> *So do you think of them [periods] as a problem or an issue at all?*
> *Sophie:*
> *Em, I don't let it bother me. I could I think if I sat down and thought about it. I think it's the length of them that is different because I had quite a short period before, three or four days maximum and they are for seven days now. And that sort of annoys me because my cycle is so short, but there is nothing I can do about it so there is no point sitting down fretting about it, you know. I mean it doesn't really bother me that much now, because as it is, you know I've got my two little girls and I don't have an awful lot of time for things like sport and that sort of thing when you might be wearing a leotard or something like that. Em, so you know with my life as it is at the moment it doesn't really affect me that much.*

Overall, in the qualitative interviews women spoke mainly in terms of impact of symptoms in judging periods as a problem. The context of everyday life, severity of symptoms or presence of combination of symptoms all seemed to influence the impact of symptoms. The latter two are consistent with the findings from the

quantitative data. What the qualitative data adds here is not only the importance of context but also how difficult it can be to separate the impact of different menstrual symptoms from each other as well as the sometimes lack of clear distinction about what constitutes a 'normal' period. It may be that the difficulty in defining what constitutes a 'heavy' period means that the degree of impact of symptoms is particularly important to women in being something that can be compared with others.

In comparison with previous research in this area, our findings regarding judging heavy or 'problem' periods concur on many points, yet also show interesting differences. Chapple (1999) interviewed 30 women who said they had heavy periods sampled by a snowball method through community groups. She found that interviewees spoke about first developing heavy menstrual bleeding as being 'a time of uncertainty', in that interviewees did not know what volume of loss was normal and only gradually came to the conclusion that their menstrual blood loss was 'abnormal' by comparing their menstrual flow with past experience, or by talking to other women. Although our findings concur on the former point, they differ on the latter in that we found that reaching decisions about heaviness through discussion with others was relatively unusual. This may be a result of the different sampling techniques. By using a snowball method, Chapple may have been more likely to speak to women who had discussed their periods with others in their social network.

We found that women generally spoke in terms of amount of blood loss when asked to judge heaviness, whereas discussions of impact generally related to whether or not symptoms were a problem. O'Flynn and Britten (2000) found that 'heavy' was a relative term, used to judge periods with reference to past experience and how the bleeding felt, findings which our data concur with. However, unlike in our study, they found that the term 'heavy' was used to denote different meanings, for instance duration of period and how it affected function. The difference may have arisen due to differences in sampling as interviewees in O'Flynn and Britten's study had recently consulted for heavy periods and may have felt they needed to justify consulting or their heaviness of loss with reference to impact. Alternatively, the process of consultation may have led to a reframing of other menstrual symptoms, especially pain, as 'heavy' (O'Flynn and Britten, 2000;Warner et al, 2001a). Or their participants' perception of the focus of their study as being on heaviness may have led them to include overall impact within a discourse on 'heaviness'. The difference may also have arisen at the point of analysis; that by looking at judgements of 'heaviness' and 'problem' separately, I may have perceived a distinction between the two due to the way in which I approached the data (with the distinction between symptoms and problem already highlighted by the quantitative findings). I feel that the analysis here, in making a distinction between judgements of periods as 'heavy' and judgements of periods as a 'problem', draws out that women can and do assess these separately. However, distinguishing between the contribution of different symptoms to overall impact was not straightforward.

We have found that Dingwall's (1976) definition of illness as a departure from personal norms is highly relevant to judgements regarding the symptom of 'heavy menstrual bleeding', whilst Herzlich and Pierret's (1987) description of illness as defined by activity and ability to fulfil usual roles is more pertinent to women's perceptions of periods as a 'problem'. This distinction between perception of a 'symptom' and perception of a 'problem' is important in understanding consulting for a symptom as common as heavy menstrual bleeding.

Underlying some of this analysis is a lack of definition about what constitutes a 'normal' period. This will be discussed further in chapters five and six as part of a broader discussion of how women view periods and how this relates to informal and formal help-seeking.

4.6 Summary

Menstrual symptoms were very common amongst women responding to the first (screening) questionnaire, with 30% reporting heavy periods, a further 5% reporting very heavy periods, and 15% reporting severe pain with periods. Overall, 39% of women reported their periods as either or both of pain or heavy loss (or very heavy loss). Twenty-two per cent reported their periods as a marked or severe problem, i.e. many who reported heavy or painful periods did **not** report their periods as a problem.

Multivariate analysis showed that postcode-derived deprivation, longstanding illness and non-use of hormonal contraception were associated with reporting periods as a marked or severe problem amongst all respondents to the first (screening) questionnaire. Once symptoms were available to the model, deprivation was no longer significantly associated with reporting periods as a problem but longstanding illness remained a risk factor and hormonal contraceptive use remained a protective factor. The menstrual symptoms of heaviness, pain and periods lasting eight days or more were all strongly associated with reporting periods as a marked or severe problem and reporting more than one of these had a cumulative effect on the odds of reporting periods as a problem. Reports of severe pain were slightly more strongly associated than 'very heavy loss' with reporting periods as a problem in a multivariate model and were nearly three times more common.

More detailed questions regarding menstrual experience were available from the second (detailed) questionnaire for women who had reported heavy or very heavy periods. A principal component analysis summarised these variables to five components: impact of volume, pain, cyclic changes, worry about change and irregularity. The first four of these were strongly associated with reporting periods as a marked or severe problem, the strongest association being cyclic changes, then pain, then impact of volume and then worry.

Analysis of the qualitative data suggested that 'heaviness' was judged on the basis of personal norms, difficulty of coping with blood loss and pattern of loss. Uncertainty was expressed about what could be regarded as 'normal' and few spoke about being able to compare volume of loss with others. There seemed to be less uncertainty about judging what was a menstrual 'problem' as women judged this largely in terms of the impact of their symptoms on everyday life. For this reason, social context and other non-menstrual co-morbidity played an important role by influencing degree of impact. A number of different symptoms may contribute to a judgement of periods as a problem and it was not always clear from women's accounts which aspect of their periods were most problematic.

Chapter five

Self-care and informal consulting about menstrual problems

This chapter will present and discuss data on how women deal with their periods, in particular, self-care practices around menstrual symptoms and speaking informally to others in the social network about these. The structure of this chapter differs from chapters four and six in that I have combined quantitative and qualitative findings under substantive headings rather than presenting them separately. I will present the quantitative data on each topic first then use qualitative data to explore topics in more detail or in a slightly different way.

The organisation and presentation of self-care and informal consulting data is influenced by Dean's (1986) division of self care into four possible responses to symptoms: (1) do nothing; (2) self-medication and; (3) non-medication self-treatment; (4) decisions to consult professional providers. I have omitted Dean's category of 'doing nothing' in the following discussion. This did not seem appropriate to the management of menstrual symptoms, as some degree of action, in terms of sanitary protection at least, is generally required. 'Rest and planning ahead' and 'speaking to others informally about symptoms' were included in non-medication self-treatment in her work but were prominent themes in our data and will be presented separately from other non-medication self-care here. Decision-making around consulting professional providers was a central aim of this study and will therefore be considered in chapter six. This chapter will therefore cover the following areas:

- self-medication (commonly painkillers);
- non-medication self-treatment (for instance, hot water bottles or extensive sanitary protection);
- resting and adjusting activities during periods;
- Speaking to others informally about menstrual problems.

As in the rest of this thesis, although the focus was originally on heavy menstrual bleeding, related menstrual co-morbidity is sufficiently important to how women experience and deal with heavy menstrual bleeding that it cannot be excluded from the analysis.

Quantitative data used in this chapter are derived from responses to the second (detailed) questionnaire and therefore based on data from women who reported heavy or very heavy periods on the first (screening) questionnaire and went on to respond to the second questionnaire. The sampling frame for qualitative interviews was all women who had completed the second questionnaire, and given contact details. I reiterate that within this group, interviewees were sampled purposively on the basis of reporting periods as a problem, pain and consulting (see table 3.8, page 157)

The second (detailed) questionnaire included fixed choice questions about the use of painkillers and rest (or stopping activities during periods), both areas highlighted as relevant by background reading. Two free text questions were included to allow the opportunity for the full range of self-care methods to be captured. One asked, 'Is there anything else you take to help you deal with your periods?' and the other asked, 'Is there anything else you do to help you deal with your periods?' In the qualitative interviews, information about non-medication self-care arose in response to the question, 'What do you find helps with your periods?' followed by the prompts 'What made you decide to try this?' and, 'Do you talk about your periods or share ideas with other people?' 'If so, who?' Relevant information also arose spontaneously at other points in the interview. As would be expected, many women were using a combination of medication and non-medication self-care strategies, as well as speaking to others.

5.1 Self-medication

The second (detailed) questionnaire asked, 'Do you use pain-killers for period pain?' Most respondents reported that they took analgesia some or most periods (43% (265/620) most periods; 26% (163/620) some periods; 18% (114/620) rarely; and 13% (78/620) never). They were then asked, 'If you use painkillers, do they control the pain?' Responses to this question indicated that pain was not particularly well controlled for a significant proportion of women. Less than half (47% (251/535))

reported that painkillers controlled their pain most of the time, the remainder reporting that they controlled the pain half the time or less. Of women taking painkillers, 34% (180/526) wrote that they were taking paracetamol, 14% (72/526) were taking a combined paracetamol and codeine preparation and 51% (267/526) were taking non-steroidal anti-inflammatory drugs (NSAIDs). Amongst those taking NSAIDs, 35% (182/526) were taking ibuprofen; 11% (58/526) were taking aspirin; 5% (25/526) were taking mefenamic acid and two women were taking another NSAID. The following question then asked where painkillers were being obtained, to which the majority of women responded that they were obtaining them directly from the chemist (83% (433/520)) rather than on prescription. A review of the evidence for analgesia in dysmenorrhoea suggests that NSAIDs are highly effective, although paracetamol compared favourably with NSAIDs in two small trials (Marjoribanks et al, 2004). The same review found no strong evidence for the benefit of any particular NSAID over others.

A free text question below the question regarding painkillers asked 'Is there anything else you take to help you deal with your periods?'. In response to this, 21% (136/633) wrote one item, 5% (29/633) wrote two items and 0.5% (3/633) wrote three things. Eleven per cent (67/633) wrote that they took some type of hot drink. There was a wide range of other remedies taken by even smaller numbers of women, the largest of which was 34 women taking evening primrose oil (table 5.1).

	Number who wrote this	% out of women who wrote anything n=136	% out of all respondents to 2nd questionnaire n=633
Other hot drinks	39	28.7	6.1
Evening primrose oil	34	25.0	5.4
Vitamins / minerals	21	15.4	3.3
Other herbal remedy	16	11.8	2.5
Dietary adjustment	15	11.0	2.4
Camomile tea	12	8.8	1.9
Tea	11	8.1	1.7
Raspberry leaf tea	5	3.7	0.8
Alcohol	5	3.7	0.8
Iron	3	2.2	0.5
Homoeopathy	2	1.5	0.3
Tranexamic acid	2	1.5	0.3
Cranberry juice	1	0.7	0.2
Arnica	1	0.7	0.2
Bach flower remedies	1	0.7	0.2
TOTAL	**168**		

Table 5.1
'Is there anything else you take to help you deal with your periods? (for example, hot drinks, herbal remedies)'

Women stating more than one item contribute more than once to the percentages so total percentage can be greater than 100%.

The use of painkillers was also widely referred to amongst qualitative interviewees. Despite this, there were mixed attitudes amongst interviewees about taking medication for menstrual problems. Several women expressed concern about the effect of taking tablets on a regular basis. Elaine, for instance, spoke of worry about taking painkillers for heaviness with severe pain until her recent improvement in symptoms.

Miriam:
And what kind of advice did you get from friends and relatives?
Elaine:
The usual stuff, hot water bottles, painkillers, and what I really, really hated, you know, is how much have I affected my kidneys all these years with loads of paracetamols and things once a month. That worried me because I would be watching the clock, like you hear people saying in labour, I would be watching the clock to see when I could take my next couple of Solpadine it would be that bad. That was a worry definitely.

This dislike of tablets also arose in the context of Louise's decision to opt for hysterectomy. She said she felt this was preferable to taking tablets intermittently over a number of years. Clare and Katherine had been prescribed tranexamic acid which they had not in fact taken for a variety of reasons. In both cases this seemed to be linked to dissatisfaction with the explanation they had been given for their symptoms as well as feeling disinclined to take tablets.

Miriam:
Was there anything in particular that you were hoping for when you did go to your GP?
Clare:
Yeah, a miracle. Em, I sort of wanted to know why really. More than oh take these tablets and they will just stop it. I kind of wanted to know why and all he said was that it was really uncommon in women who weigh eight and a half stone so didn't really offer me any answers.
Miriam:
And apart from an explanation was there anything else that you were hoping from the visit?
Clare:
Em, no I don't think so. I think I went in desperation, I probably wasn't thinking straight anyway. Em, but no, he was really nice but he said, you know, all I can do is give you tablets to stop the bleeding.

Miriam:
And why was it that you didn't want that?
Clare:
Em, because I felt that if there was blood there that needed to come out I shouldn't be taking stuff to stop it coming out. Em, and also because nobody could give me any kind of information about the drugs really. He just said oh ask the pharmacist um so and also it was just the fact that if I had taken them then potentially I would have been on them for quite a long time em, and I just really, really didn't want to take them at all.

Not all women expressed concern over taking tablets to control their periods. This had become a routinised part of self-care for some. Others, while expressing some ambivalence, generally seemed resigned to taking medication on a regular basis if they felt this was preferable to the alternatives. Tracy, for instance, told me she 'tricycled' hormonal contraception in order to only have one period every three months and preferred this to taking up the offer of a hysterectomy. Mary was amongst several interviewees who regularly took painkillers each period.

** Miriam:*
And em, you also mentioned the pain, are they painful at the moment?
** Mary:*
Yes.
** Miriam:*
And how bad is that?
** Mary:*
Em, it can be bad enough to stop me doing things, em, I get the odd day I have to go to bed with a hot water bottle. I try not to. That doesn't happen every month but I certainly do take regular analgesia for the first two or three days.
** Miriam:*
Every time?
** Mary:*

> *Yes. I would say maybe, what about six or eight co-proxamol each day. It doesn't always take the pain away but it makes it liveable.*

Mary said she had tried ibuprofen and paracetamol purchased over the counter for period pain with little benefit. She then tried co-proxamol (a prescription-only medicine) which she had been prescribed for something else, found it more effective and requested it regularly. Despite her use of a prescription-only medicine she did therefore seem to refer to her decisions about analgesia more in terms of self-care than doctor or shared care.

5.2 Non-medication self-treatment

Sanitary protection is the most obvious non-medication self-treatment for heavy menstrual bleeding. The second (detailed) questionnaire included the question, 'Do you have to use more than one pad / tampon at the same time?' to which 43% (270/620) ticked 'yes' and 57% (350/620) ticked 'no'. In response to, "Do you have to get up at night to change your pads / tampons?" 61% (376/621) ticked "some" or "most" periods. These measures therefore seem to be fairly widespread amongst women reporting heavy or very heavy periods.

The second questionnaire also included a free text question, 'Is there anything else you do to help you deal with your periods? (for example, hot water bottle, rest, massage).' Most women wrote one action that they took to deal with their periods (70% (444/633)). Two actions were written by 34% (216/633) and 8% (50/633) wrote three actions. The most frequent responses were hot water bottles (46%) and resting (32%), followed by baths (17%) and massage (6%) (table 5.2). The remainder of actions to deal with periods were carried out by relatively small numbers of women.

	Number who wrote this	**% out of women who wrote anything n=444**	**% out of all respondents to 2nd questionnaire n=633**
Hot water bottle	290	65.3	45.8
Rest	205	46.2	32.4
Bath	107	24.1	16.9
Massage	40	9.0	6.3
Exercise	26	5.9	4.1
Aromatherapy	14	3.2	2.2
Other heat	12	2.7	1.9
Positioning	6	1.4	0.9
Breathing/meditation/yoga	5	1.4	0.8
Other	2	0.5	0.3
Ignore	1	0.2	0.2
Planning	1	0.2	0.2
Acupuncture	1	0.2	0.2
TOTAL	**710**		

Table 5.2
Is there anything else you do to help you deal with your periods? (for example, hot water bottle, rest, massage)

Women stating more than one item contribute more than once to the percentages so total percentage can be greater than 100%.

Many qualitative interviewees spoke about the self-care practices reported in the quantitative data such as the use of hot water bottles, baths and hot drinks. However, it also became apparent that some women were going to considerable lengths and trying a variety of strategies for containing heavy loss, a form of self-care less frequently mentioned in the free text questions. In addition to wearing more than one pad at a time or a pad and tampon simultaneously, a few women also spoke about wearing darker clothes or about wearing extra layers of underclothes. Others reported sleeping on towels, wearing tighter underwear at night to hold sanitary pads in place or using waterproof sheets to prevent staining bedclothes or mattresses. One interviewee (as mentioned in chapter 4) said she regularly slept on her (wipeable leather) sofa during her period in order to prevent staining of bed-linen. Two interviewees said they used incontinence pads to contain heavy bleeding: one of whom had urinary incontinence but the other, Anna, used them solely for heavy menstrual bleeding as part of a combination of strategies in order to manage periods. Here she had been talking about her periods as heavy and I asked her to elaborate on this.

> *Miriam:*
> *And how can you tell that they're heavy?*
> *Anna:*
> *Em, well I just have to really em, use, not even the thickest sanitary towels are any good and what I do is, I use em, somebody, this is a lady that I know, she has em, they are incontinence pads, and she lets me have them and she gives me packs of those and they're really the only things that help.*
> *Miriam:*
> *For the whole period?*
> *Anna:*

> *Yes, yes, just about, mmhmm. Eh, I don't like it, they're very uncomfortable, you know that they're there all the time, but there's just really nothing else I can do, so, you know, I just have to put up with it really. It doesn't stop me from doing anything, but you just don't feel nice really...*

Anna was unusual in that she spoke of having involved others in her strategies for coping with volume of blood loss by accepting help from her mother in obtaining incontinence pads from her friend. Although painkillers were widely discussed with others, strategies for containment were less frequently discussed and were generally developed individually through trial and error. Women spoke about experimenting with different methods of containment themselves without discussing them with others. Christine, for instance, knew which type of sanitary towels her daughter preferred but had not discussed with her or anyone else the other containment measures that she herself took such as wearing tight clothes at night and sleeping on a towel.

Some women seemed to have experienced more difficulty than others due to different views regarding what was suitable self-care, in particular what was acceptable in terms of disposal of used sanitary products. For instance, Diane seemed happy to use any public toilets for checking and changing sanitary protection and felt free to continue with her usual activities during her periods, so long as she knew where the public toilets were. Clare, on the other hand, said she would not dispose of sanitary products in public toilet bins if she was unsure of their frequency of being

emptied, preferring to carry used sanitary products in her bag, but that this limited places she was prepared to visit during her period as she did not like to have a 'whole carrier bag' full of used products with her. Kirsty said she did not like to carry used products with her so would restrict visits to friends' houses during her period.

> *Miriam:*
> *And em, so it has a little bit of effect on your work still, does it have an effect on any other areas of your life, on your social life or...?*
> *Kirsty:*
> *Em, not usually although I am a bit wary of going to friends' houses for any length of time when I am on because I don't like putting tampons and things down the toilet and you know if you are going to have to change one when you are at somebody's house I am always kind of like what do I do, you know I just don't like it. Or I would have to kind of like take it away with me and that is just like yeugh as well [laughs].*

Several interviewees spoke about 'learning to cope' with periods over time, developing better self-care strategies and generally 'getting used to' periods. Kirsty said that time and experience meant that, at 28 she had a 'better routine' for managing her heavy and painful periods than when she was younger.

> *Miriam:*
> *And em, so overall, how much of an issue do you think periods have been for you over the years?*
> *Kirsty:*
> *Em, I think sometimes they have been quite a big issue in that you know I've spent a day being miserable and I've gone to work being miserable too. Or I've gone to school or college to be miserable, kind of thing, so I've had to get through the day, em and the number of times when you know, my tampon has leaked or my pad has leaked that is just really annoying. Em, so yes they have been at times but nowadays I seem to be more in control in that you know I've got a better routine*

> *going and I make sure that I go to the toilet all the time so that I can check, kind of thing and I've always got spare tampons or whatever with me, touch wood, there is always a first time to forget. Em, so it's not so bad now, I guess it's just time and experience.*

There were relatively few women in the sample whose period problems were of more recent onset, who might not have developed coping mechanisms. Katherine said that she felt 'careworn' by having to wear large amounts of protection, carrying extensive supplies with her, and not going anywhere without a toilet nearby during her period, while others seemed to have routinised these measures. This perceived impact may have seemed greater to Katherine because her periods had not always been heavy. This meant that, not only was she worried about possible causes, but she also found them bothersome on a practical level.

> *Miriam:*
> *In what way did they [periods] make you have to change your life?*
> *Katherine:*
> *Em, well again it's just, I think the main thing is kind of em, it probably doesn't change my life as such so much em, it changes how I feel about my life at that time. I think that is probably more accurate, I mean yes it changes my life when you've got a bag stuffed full of sanitary towels and things like that and you get a bit neurotic about having massive supplies in and things like that but, em, I think it's because it's something that I've never really spent a lot of time, because for years and years it's been something that was kind of like incidental almost happened and that was it, it was fine, and now it's become something that I can't think like that about it.*

5.3 Resting and planning ahead to adjust activities during periods.

In response to the question 'Do you stop your normal activities at the time of your period,' 21% (133/622) ticked 'yes, some periods', 7% (41/622) ticked 'yes, most periods' and 72% (448/622) ticked 'never' or 'rarely'. A second question asked 'If yes, how many days in the last 6 months have you stopped your normal activities?' Of women who responded to this question (and did not write zero), 24% (49/202) wrote one or two days, 26% (53/202) wrote three to five days, 22% (44/202) wrote six to nine days and 28% (56/202) wrote ten days or more.

In response to the free text question, 'Is there anything else you do to help you deal with your periods?' 32% wrote responses that were coded as 'rest' (table 5.2, page 227). Coding was not straightforward for these responses, however and comments such as 'go to bed', 'sleep' or 'relaxation' were all included in 'rest'. Even those simply writing 'rest' could be referring to a wide range of behaviours including total bed-rest or just reducing activities or going to bed a bit early so it is difficult to be sure what these responses mean. Overall, the combined responses to the fixed choice and free text questions suggest that menstrual symptoms are having a marked impact on a substantial number of women's lives.

With regard to rest, planning ahead or adjusting activities, qualitative data highlighted the importance of context in influencing actions. Interviewees in paid employment, for instance, often spoke of a difference in the degree to which they adjusted activities depending on whether they were at work or not. Anita said that if she was at work (as a midwife) she would wear extra sanitary protection then carry on as normal but if she was at home she would rest far more than usual. At this point in the interview she had already told me she had never taken sick leave for anything, including her periods which she described as heavy and painful.

> *Miriam:*
> *And when it's period time does that affect what you do when you are at home at all?*
> *Anita:*
> *It probably does. Em, yes. I tend not to go out really. I tend to stay in and maybe veg out with the telly and not do very much at all. It's like a wasted few days. I tend to go to the gym a couple of times a week or swimming or do the shopping or washing and ironing or whatever needs done but I think at that time you are feeling like that you tend to not do anything and then you realise afterwards that you've left all these things for a couple of days and they've all piled up and you've got to do them eventually. It's getting your head round actually moving yourself, whereas if it happens round about the time when you are actually doing a shift at work and because of the way I feel about work, you go in, em, but again speaking about it is really quite strange because I wouldn't have been aware of doing that. I probably do very little at home when I've got my period and yet if it's a work day, you're up and you're out, you know. It's perverse really I suppose.*

Many women, like Anita, said they tried not to let their periods affect their work. However, four of the 32 women interviewed had missed a considerable number of days' work due to heavy or painful periods and others had missed occasional days.

Five others had been able to adjust activities or shorten days at work during periods. Anna, for instance, was self-employed and described how she was able to alter her working pattern during her heavy periods. This data excerpt is interesting in that it demonstrates the ambivalence towards adjusting activities, talked about both as a necessary coping measure at the same time as conflicting with the imperative to not let menstrual symptoms prevent fulfilment of usual responsibilities.

> *Miriam:*
> *And is there anything else that you've found, that helps with your period?*
> *Anna:*
> *Em, just trying to do as little as possible, work-wise. Em, I just sort of try and take it easy, oh, go slower and not rush around like I usually do. Em, and eh, just try and get an early night, sleep a bit more, that sort of thing. Have a bath, a long hot bath.*
> *Miriam:*
> *'Cause it's interesting what you said about taking it a bit more easier 'cause you also said, at the same time, that you try not to let it affect what you do?*
> *Anna:*
> *That's true, I do, yeah, yeah, that's true. Em, I think I sort of get round it by, I take it easier, I mean it doesn't stop me from working, but I might probably end up working longer during the day, because I'll have a coffee and relax which means it is a longer day, but it still doesn't stop me doing the job, I think, yeah.*

Type of employment obviously affected the extent to which activities could be adjusted at work. Difficulties in managing periods in the workplace were related to factors such as access to toilets. Those working in shops or factories reported extra difficulty in coping with heaviness due to having to obtain help or permission for extra toilet breaks. Two factory workers referred to the extra anxiety about blood

leakage accidents invoked by having to wear a white coat, especially if male colleagues worked nearby. Christine, although embarrassed by an accident of blood leakage at work, said that it had been bearable because it was all women she worked with.

5.4 Speaking to others informally about menstrual problems

In this study we set out to understand 'help-seeking', both formally from professionals and informally from lay others. However, it became clear early in the qualitative interviews that women did not necessarily view speaking to others about menstrual symptoms as 'help-seeking'. Advice was proffered, information gleaned, or reassurance gained during the course of ordinary conversations without women framing this as actively seeking advice or reassurance. This section is therefore titled 'speaking to others about heavy menstrual bleeding' rather than 'informal help-seeking about heavy menstrual bleeding'. Reference was made to discussions with others throughout the qualitative interviews but the interview schedule also included the direct questions, 'Do you talk about your periods or share ideas with other people?' and, if so, 'Who?' I shall present quantitative data on speaking to others followed by qualitative data addressing why they discussed periods with others (although really I mean 'what they got out of it' in that, as discussed above, not all had entered the conversation with the aim of obtaining information). Finally I shall present data on those who did not discuss periods with others.

When asked, 'In the last 12 months have you asked for advice from anyone about your periods?' 70% (440/633) reported asking advice from one or more of the list of eight possible discussants. (See chapter 3, page 140) for a discussion of the low response rate to this question). It seemed that the majority of women had discussed periods with others, although there was a significant minority (21%) who did not or, at least, had not done so within the last 12 months. However, some women who had discussed periods with others may not have viewed this as 'asking for advice' and therefore not responded positively.

	Number ticking yes / number of responders to each question	**% out of responders to each question**	**% out of all respondents to 2nd questionnaire n=633**
Friend	240/508	47.2	37.9
Family member	158/465	34.0	25.0
GP	223/500	44.6	35.2
Pharmacist	16/415	3.9	2.5
Hospital doctor	56/433	12.9	8.8
Health visitor	9/419	2.1	1.4
Alternative medicine	49/427	11.5	7.7
other	19/291	6.5	3.0

Table 5.3
In the last 12 months have you asked advice from anyone about your periods? (yes/no) Responses from the second (detailed) questionnaire

Table 5.3 shows that advice about periods was asked most frequently from friends, followed closely by GPs, then family members (38%, 35% and 25% respectively). Table 5.4 shows responses to the question regarding what aspects of periods were discussed with others. Sixty-two per cent (393/633) of all respondents ticked one or more boxes. Many of the 393 women responding to this question ticked two or more different symptoms for discussion so the total number of different aspects of periods discussed was 856. Furthermore, many ticked that they had discussed these different aspects of periods with more than one category of discussant such that the total number of different aspects discussed with different people was 1442. It can be seen from the second to bottom row of the table that heavy periods and mood changes around periods were most frequently discussed, followed closely by period pain. However, this question is on the second (detailed) questionnaire and therefore all women in this analysis had reported their periods as heavy or very heavy, whereas only 43% (169/393) had reported severe or very severe pain. Nevertheless, from the bottom row of the table it can be seen that, per woman, the aspect of periods most discussed was mood changes.

Amongst women who reported asking advice about heaviness from others, 70% (147/210) asked friends or family members and 57% (119/210) asked their GP. Amongst women who reported asking advice about pain from others, 67% (134/200) asked friends or family members and 45% (90/200) asked their GP. It seems that

women have a similar pattern of who they consult for heaviness as for painful periods; that is approximately two thirds reported asking advice from family or friends within the past 12 months whereas approximately a half reported asking the GP. Amongst women who reported asking advice about PMS from others, 77% (179/233) asked friends or family members and 35% (81/233) asked their GP. These data need to be interpreted with caution due to the large number of missing values. However, it seems that, for each symptom, asking advice from the GP was less likely than asking advice from friends or family but this difference was most marked for PMS.

	Heavy bleeding	Period pain	Mood changes around periods	Timing of periods	Other	TOTAL
Friend	125	103	153	71	15	**467**
Family member	84	78	89	52	11	**314**
GP	119	90	81	92	33	**415**
Pharmacist	0	12	4	1	1	**18**
Hospital doctor	32	20	15	28	8	**103**
Health visitor	5	1	3	4	1	**14**
Alternative medicine	16	20	24	11	7	**78**
Other	6	6	9	6	6	**33**
Total no. different aspects of periods discussed with different people	**387**	**330**	**378**	**265**	**82**	**1442**
Total no. different aspects of periods discussed with anyone	**210**	**200**	**233**	**157**	**56**	**856**

Table 5.4
In the last 12 months have you asked advice from anyone about your periods?
If Yes, which of these did you discuss? Responses from second (detailed) questionnaire

Total number of respondents to this question n = 393

Pharmacists were very infrequently consulted (2.5%) (table 5.3), despite the finding presented earlier that a large majority of women obtained their analgesia from a chemist. References to pharmacists in the qualitative data suggests that it either had not occurred to women to seek advice there or that they thought it would be embarrassing. Where pharmacists were mentioned it was mostly in the context of enquiring about different painkillers. Andrea, below, may just be speaking about protection of privacy rather than embarrassment. She had been telling me how Feminax had led to an improvement in her symptoms and that she had found this at a chemist.

> *Miriam:*
> *Did you ask the chemist about it that time for the feminax or did you just come across it?*
> *Andrea:*
> *I just read the label and I was like mmmm...*
> *Miriam:*
> *You just saw it on the shelf?*
> *Andrea:*
> *Uh-hu.*
> *Miriam:*
> *Have you ever thought about asking the chemist?*
> *Andrea:*
> *No really no. Because again there are customers all around you, there are people listening in and you are like, nut, you can't do it. You simply just cannot, you know there are all these old wifeys listening in and they could be like rabbit, rabbit behind your back, you know, like she is having problems you know, and you are like, what has it got to do with you if I'm having problems you know.*

Diane and Lorna said that their mothers had asked the chemist for advice about painkillers on their behalf.

Miriam:
And how was it that you came to use nurofen as well?
Lorna:
It was actually the pharmacist that told me to try them because there is a some sort of anti-inflamatory that stops the muscles contracting or something, so it was the pharmacist that told me to try them.
Miriam:
So did you ask the pharmacist for advice?
Lorna:
Uh-hu. Well it was my mum that was there, I was curled up in a ball somewhere at the time.

Two women had discussed menstrual symptoms with a pharmacist themselves. Fiona had been recommended Evening Primrose Oil for PMS by one friend while another had suggested St Johns Wort so she asked the 'girl' in the chemist which she thought would be best:

Miriam:
When you were asking the chemist, were you asking her advice about which one would be better for you?
Fiona:
Yes, I asked her about the, because I didn't know anything at all about it, I should have gone onto the internet and read about it but I didn't have any time at work so I just went to the chemist and the girl was very helpful. They have quite a wide range and things that I've probably only glanced at before but not really and I asked her and said that I had heard about St Johns Wort or whatever and it was her who asked me if I was on contraceptive pill, and she said well she said with some people it can have a slight effect on the effectiveness of the pill and so I just put it back and just took the Evening Oil of Primrose.

Rogers et al (1999) noted that community pharmacists are infrequently used as an information resource except for tickley cough, minor eye irritation and hay fever. Our quantitative data suggests that community pharmacists are infrequently consulted about menstrual symptoms, despite many women obtaining analgesia for menstrual pain from pharmacies. Our qualitative data suggested that embarrassment may be a factor in women not consulting the pharmacist, although others said that it had just not occurred to them.

Only three of the women interviewed said they had not spoken to family or friends about periods and these cases will be discussed later. All other interviewees had discussed periods with others in their social network to some extent. This was a source of information and advice, practical support and reassurance.

5.4.1 Information

Women said they had found it useful to obtain information, for instance about different painkillers or others' experiences of treatments for heavy periods, through the conversations they had had. Sometimes women described actively seeking information but they also spoke about being proffered unsolicited advice, for instance after others had told them they looked terrible, or after missing work due to periods. Joanne, a self-employed hairdresser said that on occasions she had had to cancel appointments with clients due to period pain and this had led to her being offered advice. The following data emerged after she told me she had discussed

painkillers with her cousin.

> *Miriam:*
> *And have you ever had any other suggestions about painkillers and stuff?*
> *Joanne:*
> *Em, no, one 'y my clients that I'd had to cancel one day she said she used to get really bad period pains and she'd told me 'y go an' ask. She'd had to go to a specialist, she'd got referred from her GP, to go and see about her periods 'cause they were so bad and she gave me the name of this drug that they gave her and she told me to ask my doctor for it, I can't remember what it was called now. I've never done that, so that's about the only, like solid advice, do you know what I mean. But my friends are just like "Take a hot water bottle an' you know, just go 'y your bed" that's the advice I get.*

Actively seeking out information was most noticeable amongst women with more severe symptoms or considering more invasive treatments. Louise had had a hysterectomy and told me she had sought information extensively beforehand, as had Audrey who was waiting for a hysterectomy. Both had searched the internet. Louise had also bought a book about hysterectomy and Audrey had telephoned people she remembered had had a hysterectomy in the past:

> *Miriam:*
> *Is there anyone else that you have spoken to apart from the GP and the consultant?*
> *Audrey:*
> *Well I've spoken to my husband about it obviously. And I've spoken to friends, I know quite a few people that have had hysterectomies and I've spoken to them.*
> *Miriam:*
> *And was that something that came up in conversation or did you go and speak to them?*
> *Audrey:*

I just went purposely to speak to them about that. I mean once I had been told I was to have that I was on the phone to people to say how did they find it. But most people that I know that have had hysterectomies, once they recover they feel really well and they've not got all the problems that they had before with their periods.
Miriam:
And did you find it helpful speaking to your friends about it?
Audrey:
Yes, because as I say because I felt it was all doom and gloom from the internet but when I spoke to these friends who had had hysterectomies, you know to find out, they had a new lease of life and they weren't having the problems they were experiencing before so I actually felt much better.

Tracy said she would seek out information if she was to think more seriously about taking up the offer of a hysterectomy.

Miriam:
And how much of an issue do you feel that your periods have been for you?
Tracy:
As I'm getting older and in the last few months because of the headaches I would say it's something that is starting to prey at my mind because I know that something will have to be done about it, if I'm being perfectly truthful I know something has to be done about it.
Miriam:
Uh-huh.
Tracy:
So I suppose I need to do some more reading or speak to somebody who knows about you know if you have a hysterectomy does that solve everything. Em, or does your ovaries still sort of kick in when you know when your cycle would be working...

In general, there seemed to be a body of shared lay information to be drawn on in the context of hysterectomy. There appeared to be substantial knowledge of some other treatments too, such as painkillers. Women said they had received recommendations about different painkillers from their mothers (especially when they were younger), other family members or friends. Others said they had just tried a variety of different painkillers over the counter without discussing it with the pharmacist. Some had a knowledge of analgesia through their professional backgrounds (six interviewees were nurses).

Another area where women seemed to widely share information was contraception and its effects on periods. Ruth and Andrea said they had been advised by friends to take the combined oral contraceptive pill to help with their period pain but had declined to follow this advice due to fear of side effects. Jean said a colleague had told her that her periods had become much lighter on the minipill. Sophie said she had been reassured by friends and her sister that the IUCD commonly led to heavy menstrual bleeding. Sheila described speaking to a wide circle of people about her periods and had been offered advice about contraceptive effects on periods by her daughter and a friend:

> *Miriam:*
> *So you've spoken to your daughter about it, how did it come up, do you remember?*
> *Sheila:*
> *She phoned me and I said, she phoned just to see how I was and I said S, I've took my period and I'm on the pill*

> *[breakthrough bleeding] and she said oh you shouldnae be taking your period, she said it sounds to me as if that pill is no strong enough for you then and I said oh is that what it is because I was panicking, I'm a panicker. And she said eh you'll need to go back doon and tell them mum. I said aye I will so I'll go doon next month, and I put it off again but I'll go doon this month and tell them.*
> ...
> *Miriam:*
> *And em, how did it come up when you were talking with your friend?*
> *Sheila:*
> *I was telling her aboot how heavy my periods were and that and I told her, she frightened me actually. I told her I got put on the pill and that it's helping me. She says well it will help you for maybe a year, two year but she said it will get into your system and then it will go as bad as ever, and she says they will probably need to gie you a hysterectomy. And I said oh no.*

Another area of self-medication discussed with lay others was treatments for PMS. Of the six interviewees who spoke about PMS as being a problem for them, four had spoken to friends, two of whom had also spoken to alternative medical practitioners. (Jennifer had consulted a homoeopath about heaviness and PMS and ME while Megan had consulted a variety of alternative practitioners for pain and PMS). Of the interviewees with PMS some said they had consulted the GP about other aspects of menstruation but none had spoken to the GP about PMS. Megan described heaviness, pain and PMS but did not seem to view PMS as something she would discuss with a GP:

Miriam:
Do you think when it was more of a problem, do you think it helped to have somebody that you could talk to about it [sister had similar problems]?
Megan:
Yeah, I think so, I think having, you know, relating it to someone who had similar problems, I suppose, would help, because you kind of think "Oh well it's...." you know, you're not the only one. But I suppose the frustrating thing for me was I kind of used to think "I mean this is something I have to manage, there's no point..." I wouldn't have even considered, well I think once, as I said, I did go to my GP, once or twice, when it was really bad pain, but I saw myself as going to the GP for help with the pain and not for help with the emotional side of it. 'Cause I kind of thought, well, what will they say, so...

The final health topic which women spoke about discussing with others was the menopause, or approaching menopause, and the effect of this on menstruation. Twelve of the 32 women interviewed said that they thought changes in periods were to be expected with age and that these ideas came from informal discussions with others. Some women, who suspected that a change in periods might be due to approaching the menopause, consulted other family members about their age at onset of the menopause in order to assess whether cycle changes could be due to this. Others seemed to be drawing on comments they had heard in the past and 'stored'.

Miriam:
And you know the em, that you were saying maybe they changed because you are getting close to your forties, do you remember where that idea comes from?
Audrey:
I suppose it's just passed on information isn't it, things I've heard, things that have been said, things I've read. I mean I probably don't have any real idea if that is the case or not.

Miriam:
Can you remember when you heard it?
Audrey:
I would imagine it's just other women speaking. I've heard people saying oh well, I started the menopause really early and I've picked up on that.

Overall, there seemed to be substantial bodies of lay information to be drawn on around hysterectomy, painkillers, contraception and the menopause. Women accessed this either through actively seeking information or by obtaining it incidentally through conversations with others in their social circle. There were, however, treatments for menstrual problems which were referred to far less, such as medications to reduce menstrual bleeding (mainly tranexamic acid), or newer treatments such as the levonorgestrel-releasing IUCD or surgical alternatives to hysterectomy.

5.4.2 Practical support

Women spoke about telling others about their period problems in order to receive the practical support which was sometimes necessary in order to cope with their usual responsibilities during periods. Shirley, Sophie and Tracy spoke to their mothers in order to receive extra help with childcare during their periods. Others said that they might mention periods to their partners, often just 'in passing' but sometimes for specific practical reasons. Leah said she asked her husband and daughter to check her clothing for staining for her and asked her whole family not to ask her to do anything

during her period, leaving food for them in the fridge and resting in bed for one day. Mary and Fiona said their husbands took on extra domestic responsibilities during periods.

> *Miriam:*
> *And is there any reason in particular that you discuss it with your husband?*
> *Mary:*
> *A bit of sympathy I think. [laughs]*
> *Miriam:*
> *Does it help to tell him about it?*
> *Mary:*
> *Oh, he is very good, he will just say, well you know I'll clear up the dishes or something, go and sit down. That kind of thing. I suppose it's partly a warning because I'm not just sweetness and light at that time.*

Some women spoke about requesting help from work colleagues in order to deal with menstrual problems in the workplace. Christine and Shirley had both needed help from work colleagues after accidents of blood leakage while at work and needing a change of clothes. Four interviewees spoke about having to seek help from work colleagues in order to enable more frequent toilet breaks during a period.

> *Miriam:*
> *And do you remember did you ever mention your periods at the time?*
> *Clare:*
> *Yeah I did have to um talk to my colleagues about getting out to the toilet and things.*
> *Miriam:*
> *So what did you say?*
> *Clare:*
> *Well I just said you know I need to go and change my sanitary towel and I need to do it more frequently than most people imagine and yeah, they were quite, when I did ask*

them because some people did it because they wanted to get out for a cigarette so it was a bit more acceptable me saying can you come and cover for me than because I want to go out for a cigarette. Em, so that sort of justified it a bit more really.

5.4.3 Reassurance

Women who had wondered whether changes in their periods were arising because of approaching the menopause said they gained reassurance from learning that others had experienced similar changes.

Miriam:
And did you find that helped, speaking to her about it [mother, who had similar problems]?
Shirley:
Oh aye, it reassures you sort of thing. Like it happens to quite a lot of us, it's happened to my mam, it's happened to my gran, ken and it's just the way it goes.
Miriam:
Why do you find that reassuring?
Shirley:
Because I'd maybe inside been worried about it, ken, is this the way it's supposed to go and whatever and by talking to my mam and that it sort of reassured me that ken, it's a women's problem sort of thing and it does happen to quite a lot of us.

Shirley had obtained this reassurance from within her family but Mary had received similar reassurance from friends.

Miriam:
And is there anyone else that you can discuss periods with?
Mary:
[laughs] I talk to my friends who are all having, I get the impression that once you hit forty everything starts falling to bits, I don't know if that is true or not. But yes, I talk about it with friends.

Miriam:
Do you know where you get that impression from?
Mary:
What, that once you hit forty? I suppose it's just because all my friends are about the same age as me and a lot of them seem to be having problems with heavy bleeding and pain.

It seemed that most interviewees were happy to discuss a *change* in heaviness of loss, although, as was shown in the previous chapter, they did not seem to discuss *actual volume* of loss in a way which would allow them to compare their volume of loss with other women. In other words, despite widespread discussions about periods, certain aspects of this were more easily discussed than others. In particular, pain, changes around the menopause and treatment options (including contraception and painkillers) were widely discussed but factors that would allow actual volume of loss to be judged, such as sanitary protection used, were less easily discussed.

5.4.4 'Everyone gets them'

The knowledge that menstrual symptoms were common, although reassuring to some, was not necessarily helpful. Some spoke of feeling reluctant to complain about menstrual symptoms because 'everyone gets them'. Joanne raised her concerns about how others viewed her complaint in the context of work absence.

Joanne
At times I'll be just about crying with the pain and you feel stupid because people will say, "What's wrong wi' you?" And you go, "It's my period," and , you know what I mean, so you feel you're being a bit petty, but it is really painful and

> *when I do get bad back cramps, it is painful, it takes my breath away and I like go tae bed wi' a hot water bottle and take a Nurofen, the Nurofen don't do anything.*
> *Miriam*
> *And when you said you feel a bit stupid saying to people that it's your period, why is that?*
> *Joanne*
> *I don't know, well it's just not everybody gets bad period pains... you just feel like, "Well everyone gets their periods, so why are yours so different from everyone else?" I mean, people maybe aren't thinking that... But I just feel a bit petty, that's all.*

A difficulty is therefore posed for some women in feeling that they are perhaps being judged negatively by others for complaining about menstrual symptoms and thinking their periods were 'different from everyone else'. This seemed to make it harder to complain about symptoms, even if they felt their own difficulties to be worse than others'. Some said that when they did complain they felt it was not taken seriously, either by the medical profession, or by employers when it came to missing time off work. Elaine felt very strongly that work colleagues had been unsympathetic regarding work absence due to periods and raised this in response to my opening question.

> ** Miriam:*
> *Do you think I could just ask you to tell me about your periods in general?*
> ** Elaine:*
> *Well, one of the reasons I agreed to you coming up to interview me is that I feel really strongly about the fact that I think that a lot of women who don't have problems really just don't understand. I mean, it's one thing men not understanding but I've had several female employers and I*

feel that because they are also women they just don't understand how much pain you are going through.
...
I've had quite a hard time because there have been days when I've just been completely unable to move with pain and I just don't think my female employers believe me.
** Miriam:*
What made you get that impression?
** Elaine:*
Em, well you know, the feedback, I phoned in once or twice with other illnesses and there was a different feedback. I know I've had this before where it is easy to wonder am I just paranoid about periods but I'm not. And I really felt that a lot of the time em, and not all of them, the other girls who did experience some pain were sympathetic and my boss and another boss who are both female they didn't experience any pain at all and they had had a few children and they, I just didn't think they believed me, but the other girls who had had some pain but not as bad as I was experiencing I think they believed me, so I don't think it was just my paranoia about they don't believe that I'm off sick. I really think there was a difference.

The knowledge that menstrual symptoms, in particular menstrual pain, were common seemed to make Kirsty doubt whether she should take painkillers or mention symptoms to others for fear of seeming to be 'moaning' unnecessarily. Although at other points in her interview Kirsty did speak about her periods as a problem, here she seems unsure whether this could be justified or whether comments like that of her mother ("You get sore") mean that really her menstrual symptoms are normal.

Miriam:
Right, and you said that it's not something that should bother you, but it does?
Kirsty:
I think it's just an attitude to myself sometimes, em, that em, do you know it's hard to say what I do mean. I have a funny

> *attitude that I mean it's kinda like it is part and parcel, it's like it happens to most, you know, a lot of people. I mean not that I've spoken to recently, but I do know that, you know, there's a friend at work, a couple of my friends at home. My Mum's always said "You know, you get sore" and all the rest of it, so you know, it's like I'm no different to anybody else, so why should I be moaning Minny kinda think about that kinda thing, so I always say to myself, you know, it's like I mean it obviously does bother me and so I might take something for it kinda thing, but em, I just think, I just feel like I'm making a fuss in my own head about it, being a martyr by not taking anything. (Laughter)*

Although some interviewees (like Elaine) seemed sure that others were not experiencing the same level of pain as they were, others (like Kirsty) were less sure about this. Furthermore, there were many points when reading transcripts that I found it difficult to distinguish whether women were speaking about periods in general, that 'everyone' really does get, or periods which really did constitute a problem. This may reflect an indistinct boundary both in clinical practice and in everyday life about what is a 'normal' and what is an excessively heavy, or painful, period.

5.4.5 Not talking to others about periods

The three women who had not spoken to others seemed to be more likely to lack information and have difficulties in managing heavy menstrual bleeding, especially in the work place, although because of the small numbers involved this finding is tentative. Jane had not discussed periods or her fertility problems with her family but

did not seem to feel a need to. Her menstrual symptoms did not seem severe and her fertility problems were something she said were too personal to discuss with others. The lack of information was therefore only a strong feature for two interviewees, Paula and Katherine.

Paula (who declined to be taped) asked me before the interview whether many people had agreed to be interviewed, "Because it's a bit of a funny subject." When I said that many women had offered to be interviewed she suggested that perhaps this was because of the subject matter. She said she had never had the opportunity to talk about her periods before and this was why she had agreed to the interview. When I asked her what her periods had been like in general she said they were, "A nightmare, really a nightmare. And I hate moaning about it so I keep it to myself." She said that people at work noticed because she became pale and sweaty so that she would tell them she was ill, but not why (made possible by her frequent change of jobs and spells of unemployment). She had not really discussed her period pain with anyone else other than very much in passing with her sister, to whom she understated her problems for fear of seeming to be making it up, she said. She had mentioned period pain to the GP once but not how bad it was as she did not want to seem to be 'moaning'.

Katherine said she had never spoken to others about periods and was very unhappy with her GP's suggestion that changes in her periods might be related to her age. This was in contrast to most of the women interviewed who accepted that changes in periods were common at different ages, mainly as a result of discussions with others in their social network. At the end of the interview Katherine identified that this was information she did not have.

> *Miriam:*
> *And em, is there any other information that you feel you would like to have about it?*
> *Katherine:*
> *Well yes, if you sort of think back over the kind of time, I think that em, you are never really given an idea about what to expect from them... I wouldn't want to talk about it all the time but I do think that if it was more generally acceptable people would have a better knowledge. I mean like for example, what does happen, you know, what is the kind of, in your twenties, your thirties, your forties, what happens, you know. What should you expect, what is normal, what is not normal, you know. Because like I was saying before, I mean maybe my periods are not heavy and I've just got a weird idea of what is heavy, you would never know.*

Although Jane, Paula and Katherine were the only interviewees who reported very little discussions with lay others, some interviewees spoke about having 'suffered in silence' in the past, especially when younger and how they found their symptoms more easy to deal with once they were more open about them. Lorna worked in a largely male environment and had difficulty concealing that her periods made her feel unwell such that she struggled to do her job for the first day of each period. She found this easier when she eventually felt able to tell colleagues why she was feeling unwell.

Miriam:
Apart from things like the colposcopy and the periods, did you ever feel with other illnesses that people didn't necessarily believe you, or do you think there is a difference there?
Lorna:
No, that's the only two really, I don't know, I think with periods and colposcopy because it is so, I mean it's a female thing and it's no everybody talks about it. I mean I used to be one of they people that wouldnae discuss something like that, it's just sort of to me it's a private thing, or it used to be a private thing that you didn't discuss. And I think until I got used to talking about it because I had to talk to the doctor and the hospital and everything like that. Until I got used to talking about it, it was just something I wouldn't discuss with anybody. And then I think going to the hospital for so long made me realise it wasn't nothing to be embarrassed about, it wasnae my fault. It was nothing I had done, it was just I was one of the unlucky ones that got bothered by it.
Miriam:
Uh-hu. And do you think it's made a difference to you since you had that change in, change in feeling about it, since you've not felt so much that you've had to hide it?
Lorna:
Uh-hu, definitely. Now if somebody will say to you what's wrong with you it's not a case of oh nothing, nothing, nothing and scuttling away, if somebody says, no matter who it be, whether it's male or female, what's wrong with you I just say oh it's the time of the month. I'm in pain or something like that and you will find that the majority of people will walk away from that, especially if it's a male they will just go, oh right and they will walk away.

5.5 Emphasising self-care

Before moving on to a discussion of formal consulting in the following chapter, I shall briefly discuss here the apparent emphasis that women retained on self-care even where interviewees had consulted. Women seemed to maintain responsibility

for managing their periods themselves and to feel able to disregard medical advice regarding menstrual symptoms if it did not seem 'right' for them. As mentioned earlier, both Clare and Katherine had been prescribed tranexamic acid but never actually took them. Belinda and Anna said they had also been prescribed tranexamic acid but Belinda only took them if she was going on a business trip and Anna only took them once but stopped because they made her more tired. Neither had discussed these decisions with their doctor.

Women spoke about managing medicines in terms of their own decisions whether they were prescribed or not. Some had been prescribed prescription-only analgesia but, after finding it not much more effective than other painkillers, chose to revert to those they could purchase themselves. For instance, Jane had been prescribed (prescription-only) mefenamic acid following a miscarriage and had kept it and tried it for period pain, but found it no more effective than Anadin to which she then reverted. Alison had been prescribed (prescription-only) tranexamic acid for heavy painful periods but speaks here about changing the dose and eventually discontinuing this very much as her own decisions.

> *Miriam:*
> *Who did you go and see about it [periods]?*
> *Alison:*
> *Em, doctors, em... they gave me tranexamic acid which I took at one dosage for about two years and then I upped the dose, changed dosage because it didn't work. Em, but that was difficult to take, because... because the periods were irregular and you were supposed to just before they were*

> *going to start and I couldn't predict when I was supposed to be taking them. If it was coming every like two weeks which it did sometimes. And it stopped working as well, so I stopped taking them.*

I wondered whether interviewees who spoke about more severe impact of symptoms would emphasise self-care less. There were five women who had missed a considerable amount of time off work and four of these had consulted repeatedly (Elaine, Audrey, Margaret and Louise). Paula had consulted only once and had not told the GP the full extent of her menstrual pain. When the mefenamic acid did not help she did not return. She was unusual in that she seemed to find it difficult to discuss menstrual problems at all, either within her social circle or with her GP, and the self-care she had attempted was limited, such that it would be difficult to say she ascribed to a self-care model or not. Elaine had consulted repeatedly for heaviness and severe pain, although again it is difficult to say whether she viewed her menstrual problems as more appropriate for medical than self-care as she had taken the decision to decline investigations and had explored numerous self-care treatments including hypnosis, relaxation, yoga, herbalism and other complementary therapies. Margaret and Louise had undergone hysterectomies and Audrey was awaiting one. Margaret had seemed to view the only solution to her heavy and painful periods as lying with a hysterectomy and she had consulted on numerous occasions until she received one. Louise and Audrey had followed a medical route but had also sought information themselves through searching the internet, buying a book about hysterectomy (in Louise's case) and ringing friends who were known to have had a

hysterectomy (in Audrey's case). Overall, those with more severe symptoms did seem to have a more mixed self-care / medical care outlook.

The emphasis on self-care may be related to the chronicity of many women's symptoms. Verbrugge and Acione (1987) concluded that in chronic conditions people devise strategies of care themselves over months or years. Alternatively, the fact that menstrual symptoms are so common may mean that women feel able to manage their symptoms either themselves or with advice from lay others. This may be contributed to by the substantial amounts of lay information held about painkillers, hysterectomy, contraception and the menopause, topics that are all related to periods. Alternatively, a view of periods as 'not real illness', as will be discussed in the next chapter, may lead to the emphasis on self-care and informal help-seeking found here.

5.6 Summary

We found widespread use of self-medication amongst women who had reported heavy or very heavy periods. Of women completing the second (detailed) questionnaire, 69% took analgesia some or most periods, although only 47% of these reported that their painkillers controlled pain most times. Most (75%) were obtaining analgesia from the chemist. However, very few (2.5%) had asked advice from a pharmacist about menstrual symptoms, although large numbers reported asking advice about pain from friends or family (67%) or the GP (45%) within the past 12 months. Some interviewees expressed concern about taking regular painkillers whereas others seemed to routinise taking painkillers each period. Interviewees spoke about considerable efforts at containment of heavy menstrual loss, mainly discovered themselves by trial and error as part of 'learning to cope' over time.

Nearly a third of questionnaire respondents reported that they stopped normal activities during some or most periods, of whom nearly half had done so for more than five days in the previous six months. Interviewees emphasised adjusting rather than stopping activities and said they were more likely to adjust activities if they were at home rather than at work.

Heaviness and pain were discussed within the social network by two thirds of women and approximately half had discussed these with a doctor in the previous 12 months.

Pre-menstrual syndrome was least often discussed with a doctor but widely discussed with friends and family. Speaking to others in a social network was a source of advice, practical support and reassurance for many women. Although the view that 'everyone gets it' was reassuring to some, for others this seemed to lead to feelings of reluctance to complain about menstrual problems or take actions such as help-seeking or work absence. Certain aspects of periods, such as pain, changes around the menopause and treatment options, seemed more easily discussed than others, mainly factors that would allow a comparison of volume of loss, such as sanitary protection.

Three interviewees did not speak to family or friends about periods. Two of these seemed to lack information and have difficulties in managing menstrual problems, especially in the workplace. Others said they had found menstrual problems easier to deal with since being more open about them. Interviewees spoke about substantial lay information shared around painkillers, the pill, menopause, and hysterectomy. Less reference was made to newer treatments such as the levonorgestrel-IUCD, surgical alternatives to hysterectomy and medication such as tranexamic acid.

Chapter six

Formal consulting about menstrual problems

This chapter will explore consulting regarding menstrual problems using first quantitative then qualitative data. As in the previous chapters, the emphasis is on heavy menstrual bleeding but the importance of related menstrual co-morbidities to how women reported, described and dealt with periods meant they are necessarily included in the analysis.

6.1 Quantitative data on help-seeking

I first present descriptive data about proportions of women consulting about periods and how this relates to reporting menstrual symptoms or 'problem' periods. I then further explore factors associated with consulting using multivariate modelling. Separate multivariate models will be presented for consulting, firstly amongst all women responding to the first (screening) questionnaire and secondly amongst women reporting their periods as heavy or very heavy. The latter draws on additional information available from the second questionnaire (detailed questions about menstrual symptoms, self-care, help-seeking and GHQ) as well as on information from the first questionnaire (basic menstrual symptoms, consulting within the past six months, longstanding illness, contraception). Therefore, in examining women reporting their periods as heavy or very heavy, data from both the first questionnaire and the second questionnaire (sent within four weeks) are being used. As discussed in chapter 3 (page 104), this is problematic in that respondents to questionnaires may respond differently at different time points and ideally all the data in each analysis would have been collected at the same time point. (This may be mitigated to some

extent by the second questionnaires having been sent within four weeks of the return of the first questionnaire and, as will be shown in table 6.3 (268), most women had longstanding symptoms). Furthermore, the GHQ explicitly asks about feelings over the preceding two weeks and departure from 'usual' feelings. GHQ scores are likely, therefore, to be more strongly associated with symptoms reported at the time that it is completed.

6.1.2 How many women consult their GP about periods?

In the first (screening) questionnaire, women were asked 'Have you consulted a GP about period problems *in the last 6 months*?' The second (detailed) questionnaire, sent to women reporting heavy or very heavy loss, asked 'Have you *ever* seen your GP about your periods?' Quantitative data will therefore be presented here on consulting within the last six months for *all responders* whereas data on consulting ever is drawn from women who have *reported their periods as heavy or very heavy.*

As discussed in chapter 3 (page 138), there was a substantial amount of missing data for the item on the first (screening) questionnaire asking whether women had consulted about periods in the last six months: 15% (382/2574) ticked 'yes'; 68% (1743/2574) ticked 'no'; and 17% (449/2574) did not respond. Associations between non-response, and other variables associated with consulting, suggested that most non-responders to this question would have been *non*-consulters. If non-responders are excluded then the proportion consulting was 18.0% (95% CI 16.4 to 19.6)

(382/2125). Remaining analyses were carried out with non-responders to this question excluded as missing, but analyses including non-responders re-coded as non-consulters were also carried out, which made no substantial difference to the overall findings for the modelling.

Looking at the various symptom groups, consulting about periods in the last six months was reported by: 25% of those reporting heavy or very heavy loss; 43% of those reporting very heavy loss; 34% of those reporting severe pain; and 46% of those reporting both severe pain and heavy or very heavy loss (table 6.1). Therefore, although 'very heavy' loss was reported by a relatively small group, this group did report a high level of consulting. The same was true for the group reporting pain and heaviness. Amongst those reporting their periods as a marked or severe problem, a fairly high proportion, 38%, of this larger subgroup reported that they had consulted about periods in the previous six months (table 6.1).

	Reporting consulting within the past 6 months	
	N	Percent of subgroup who consulted
Heavy or very heavy loss	210/838	(25.1%)
Very heavy loss	55/129	(42.6%)
Severe /v severe pain	119/352	(33.8%)
Severe /v severe pain AND heavy or very heavy loss	28/61	(45.9%)
Periods a marked or severe problem	204/537	(38.0%)

Table 6.1
Numbers of women reporting consulting about periods within the past six months on the first (screening) questionnaire shown by symptom and 'problem' subgroups

More detailed information about consulting is available from the second (detailed) questionnaire, sent only to women who reported their periods as heavy or very heavy on the first (screening) questionnaire. The second questionnaire asked 'Have you *ever* consulted your GP about your periods?', and 'If yes, how many times have you seen your GP about your periods in the last 12 months?'. Fifty-nine per cent of respondents to the second questionnaire reported having *ever* seen their GP about periods (table 6.2). Looking at subgroups determined by symptom or elicited problem, having *ever* seen their GP about periods was reported by: 79% of those reporting 'very heavy loss'; 81% of those reporting 'severe pain'; and 79% (201/253) of those reporting their periods as a marked or severe problem. Overall, among those reporting severe pain or very heavy loss or a marked or severe problem, approximately 20% reported *never* having consulted about periods. It may of course be that some women who reported never having consulted regarding pain were reporting new onsets of menstrual symptoms or problem, or recent exacerbations. However, only 4% (25/579) of women responding to the second (detailed) questionnaire reported having been bothered by their symptoms for less than six months (table 6.3), meaning that this explanation could only account for a minority.

	Reporting consulting ever	
	N	Percent of subgroup reporting having consulted ever
Heavy or very heavy loss	367/621	(59.1%)
Very heavy loss	71/90	(78.9%)
Severe /v severe pain	134/165	(81.2%)
Severe / v severe pain AND heavy or very heavy loss	134/165	(81.2%)
Marked or severe problem	201/253	(79.4%)

Table 6.2
Numbers of women reporting having ever consulted about periods on the second questionnaire shown by symptom and 'problem' subgroups

'Consulting about periods ever' appeared only on the second (detailed) questionnaire, sent only to women reporting heavy or very heavy periods on the first (screening) questionnaire. The first row therefore represents all women responding to the second questionnaire who also replied to the question about ever having consulted about periods.

Duration of symptoms	Frequency	Percent out of respondents to this question (579)	Cumulative percent
Under 6 months	12	2.1	2.1
6 to 11 months	43	7.4	9.5
1 year to under 2 years	78	13.5	23.0
2 years to under 3 years	78	13.5	36.4
3 years to under 4 years	51	8.8	45.3
4 years to under 5 years	22	3.8	49.1
5 years to under 6 years	48	8.3	57.3
6 years to under 8 years	21	3.6	61.0
8 years to under 10 years	22	3.8	64.8
10 years to under 15 years	90	15.5	80.3
15 years to under 20 years	51	8.8	89.1
20 years or over	63	10.9	100.0

Table 6.3

Responses to 'How long has this been bothering you?' asked on second (detailed) questionnaire

Figure 6.1 shows the distribution of responses to the question, 'How many times have you seen your GP about periods in the last 12 months?' Again, as this question was included on the second (detailed) questionnaire, responses represent only women who have reported heavy or very heavy menstrual loss. Although most of this group had never consulted or consulted only once, a substantial subgroup, 28% (115/408) had consulted on two or more occasions.

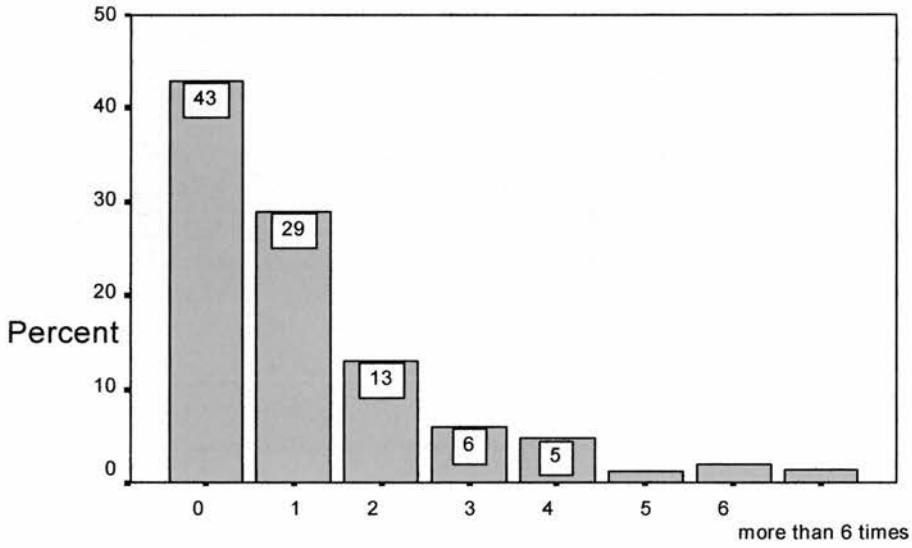

Figure 6.1
How many times have you seen your GP about periods in the last 12 months?

Finally, the influence of duration of symptoms on consulting can be explored by examining responses to the question 'How long has this been bothering you?' on the second (detailed) questionnaire. Table 6.4 shows that women reporting shorter duration of being 'bothered' were slightly more likely to report consulting in the preceding six months. In response to the question regarding having consulted about periods *ever* then 35% (50/141) of those reporting being 'bothered' for over ten years did not report consulting (data not shown). However, in considering this, it is important to bear in mind the responses written to the preceding question, 'What bothers you most about your periods?' Ten per cent of women responded by writing things like 'cost' or 'general hassle', which might be expected to lead to unproductive consultations.

How long has this been bothering you? (reported on second questionnaire)	Consulted about periods in past 6 months (reported on first questionnaire) N	(%)
1 year or less	33/89	(37.1%)
Over 1 year to 2 years	27/96	(28.1%)
Over 2 years to 3 years	13/58	(22.4%)
Over 3 years to 5 years	22/71	(31.0%)
Over 5 years to 10 years	19/93	(20.4%)
Over 10 years	22/137	(16.1%)
TOTAL	*136/544*	*(25.0%)*

Table 6.4
Crosstabulation of consulting about periods in past 6 months by duration of symptoms

'How long has this been bothering you' was a question on the second (detailed) questionnaire. This data therefore represents only women who reported heavy or very heavy periods on the first questionnaire.

In summary, the majority of women with heavy periods had consulted a GP at some point, although a substantial subgroup had not, despite reporting their periods as a marked or severe problem. Some women had been bothered by symptoms for many years and even within this group a similar proportion had never consulted. This might suggest that some women are more likely than others to view periods as an appropriate health concern to take to the doctor.

6.1.3 Modelling consulting: What symptoms and other factors are associated with consulting amongst all women?

I shall first present a model for consulting about periods in the past six months as reported amongst all women responding to the first (screening) questionnaire using other variables from that questionnaire only. I shall then present multivariate modelling for consulting about periods in the past six months restricting the analysis to those reporting their periods as heavy or very heavy in section 6.1.4.

Available information about respondents to the first (screening) questionnaire includes: sociodemographic variables (age, parity and postcode-derived deprivation); self-reported longstanding illness; contraceptive use; consulting about periods in the past six months; number of consultations in general over the past 12 months; whether periods are a problem; and responses to basic symptom questions regarding heaviness of loss, pain and number of days periods last. Table 6.5 shows the univariate odds ratios between consulting about periods within the past six months as

reported on the first questionnaire and other variables on this questionnaire. It can be seen that reporting consulting is associated with reporting longstanding illness and the weak associations with deprivation and parity are not statistically significant. There is no apparent relationship between reported consulting and age or hormonal contraceptive use. Reporting consulting about periods within the past six months was strongly associated with having consulted more than once in general within the past 12 months. This association would be expected because women who had consulted about periods, or asked about periods while consulting about something else, would clearly be more likely to have consulted more than once in general (in that they must have consulted at least once). Consulting in general was not therefore included in the multivariate model. The menstrual symptoms of heaviness, pain and duration of periods were all strongly associated with reporting consulting about periods within the previous six months. Reporting consulting was much more strongly associated with reporting very heavy than heavy loss. Reporting very heavy loss will therefore be used in multivariate analyses. Reporting periods as a problem was even more strongly associated than menstrual symptoms with reported consulting.

	Reporting consulting about periods within past 6 months on first (screening) questionnaire	
	Odds ratio	95% CI
Age		
Per 5 year increase in age	1.00	(0.90 – 1.10)
Parity		
Per stepwise increase (0, 1, 2, 3 or more)	1.10	(0.99 – 1.22)
Postcode-derived deprivation		
Per stepwise increase in deprivation code (where 5 is most deprived)	1.10	(0.99 – 1.21)
Longstanding illness		
Yes vs. no	1.51	(1.17 – 1.93)
Contraception		
Hormonal contraceptive use vs. 'other' (IUCD users excluded)	0.98	(0.77 – 1.26)
Consulting in general over last 12m	3.83	(3.02 – 4.87)
2 or more vs. 0 or 1		
Very heavy periods	3.80	(2.63 – 5.49)
V heavy vs. light/moderate/heavy loss		
Heavy periods	2.18	(1.74 – 2.72)
Heavy or v heavy vs. light/mod loss		
Pain	2.97	(2.30 – 3.85)
Severe/v severe vs. light/mod pain		
Length of periods	3.65	(2.60 – 5.12)
8 days or more vs. 7 days or less		
Problem	5.04	(3.98 – 6.38)
Marked/severe vs. no/slight problem		

Table 6.5

Univariate odds ratios for consulting about periods within the past six months (reported on the first questionnaire) and other variables amongst all respondents to the first questionnaire.

There were 2574 menstruating respondents to the first questionnaire but the effective N for these analyses was closer to 2125 due to the exclusion of 449 cases with missing values for the consulting question. (See chapter 3, page 138) There were only small amounts of missing data for other questions

Table 6.6 shows a multivariate model for consulting amongst all respondents to the first questionnaire: Sociodemographic variables, longstanding illness and hormonal contraceptive use (all referred to jointly here as 'individual characteristic variables') are all associated with menstrual symptoms, so were first examined together in step 1 then controlled for in all multivariate analyses including other variables. Symptom variables were entered together into the model to examine joint effects in step 2. 'Problem' was added separately in step 3, allowing symptoms to be examined without this, because our conceptualisation of reporting periods as a problem was as an intermediate step between experiencing symptoms and deciding to consult. The chi-square goodness-of-fit statistic given at the head of each column represents the improvement in model fit for each step. It can be seen in step 1 that, once other individual characteristic variables were taken into account, reporting consulting about periods within the past six months was associated with longstanding illness, increasing parity (weakly) and was almost significantly associated with living in areas of greater deprivation. In step 2, reporting severe pain, very heavy periods or periods lasting eight days or more were all associated with consulting. Step 3 shows that reporting periods as a problem was the most powerful predictor of consulting of the variables measured. Once 'problem' was available to the model, the only symptom that remained a significant risk factor for consulting was periods lasting eight days or more. This could be because periods lasting more than eight days is less strongly associated with 'problem' than other symptoms (table 4.7). Or it could be that women view length of period as a more worrying symptom or more likely to warrant medical attention, even if not in itself constituting a 'problem' with periods.

	Reporting consulting about periods in past 6 months on first questionnaire					
	STEP 1		*STEP 2*		*STEP 3*	
	Chi-squ=13 df=5 p=0.023		Chi-squ (step)=102 df=3 p<0.001		Chi-squ (step)=76 df=1 p<0.001	
	OR	95% CI	OR	95% CI	OR	95% CI
Age						
Per 5 year increase in age	0.96	(0.85 – 1.18)	0.96	(0.85 – 1.10)	0.94	(0.82 – 1.07)
Parity						
Per stepwise increase (0, 1, 2, 3 or more)	1.13	(1.00 – 1.27)	1.10	(0.97 – 1.24)	1.08	(0.95 – 1.23)
Postcode-derived deprivation						
Per stepwise increase in deprivation code (where 5 is most deprived)	1.09	(0.99 – 1.20)	1.03	(0.93 – 1.14)	1.02	(0.91 – 1.13)
Longstanding illness						
Yes vs. no	1.39	(1.07 – 1.82)	1.16	(0.88 – 1.54)	1.07	(0.80 – 1.42)
Contraception						
Hormonal contraceptive use vs. 'other' (IUCD users excluded)	1.00	(0.76 – 1.32)	1.30	(0.97 – 1.75)	1.43	(1.05 – 1.94)
Heaviness						
V heavy vs. light/mod/heavy loss			2.07	(1.34 – 3.21)	1.27	(0.81 – 1.99)
Pain						
Severe/v severe vs. light/mod pain			2.53	(1.88 – 3.40)	1.22	(0.87 – 1.72)
Length of periods						
8 days or more vs. 7 days or less			3.11	(2.09 – 4.63)	2.38	(1.57 – 3.59)
Problem						
Marked/severe vs. no/slight problem					4.16	(3.03 – 5.70)

Table 6.6
Multivariate logistic regression for consulting within the past 6 months (reported on the first questionnaire) amongst all respondents to the first questionnaire. Individual characteristics are entered first followed by symptom variables then reporting periods as a problem.

N = 1871 Interaction terms were tested for but none were found to be statistically significant.

It is interesting that, despite being so strongly protective against reporting 'problem', as shown in chapter four, hormonal contraception is not protective for reporting consulting about periods within the past six months. Indeed, it is a risk factor for consulting once 'problem' has been taken into account. This may be because women taking the contraceptive pill are generally required to attend every six months to obtain repeat prescriptions so may mention menstrual symptoms 'in passing'.

Entering the heaviness variable as heavy/very heavy vs. light/moderate rather than very heavy vs light/moderate/heavy made little difference to the overall model. The odds ratio for heaviness was reduced but odds ratios for other variables remained very similar to those in the model presented. (For heavy/very heavy loss vs. light/moderate loss, the step 2 odds ratio was 1.63 (95% confidence interval 1.24 to 2.15) compared with 2.07 (95% confidence interval 1.34 to 3.21) for very heavy loss versus light/moderate/heavy loss. Analysis results not shown.)

6.1.4 Modelling consulting: What factors are associated with consulting about periods amongst women reporting their periods as heavy or very heavy?

The second (detailed) questionnaire included questions highly relevant to consulting such as GHQ, 'How long has this been bothering you,' and questions about the impact of symptoms such as, 'Do you stop your normal activities at the time of your periods,' 'Do you have to get up at night to change your pads / tampons,' and 'Do you have to use more than one pad/tampon at the same time?' A weakness of the

tiered approach of sending a 'screening' questionnaire followed by a second 'detailed' questionnaire is that, in attempting to understand decision-making about menstrual symptoms, some items from the second questionnaire are being used to attempt to predict reported consulting on the first questionnaire, as discussed in chapter 3, (page 104).

In considering consulting for periods amongst women reporting heavy or very heavy periods I shall first present univariate odds ratios for all available variables, then repeat the model developed above to allow an examination of the effect of restricting the number of cases on relationships with consulting for this limited number of variables alone. I shall then develop a model which uses the full amount of information available for the subgroup of women reporting heavy or very heavy periods.

Table 6.7 shows the univariate odds ratios for consulting within the past six months as reported on the first questionnaire and variables reported on the first (screening) and second (detailed) questionnaires. Variables are grouped into individual characteristics (age, parity, deprivation category, reported longstanding illness and hormonal contraceptive use), other variables related to consulting in general (including consulting in general, GHQ and duration of symptoms), impact variables (including stopping usual activities during periods) and symptom variables. It can be seen by comparing table 6.7 with table 6.5 (page 273) that restricting analyses to

women reporting periods as heavy or very heavy leads to a change in some of these relationships. Parity is no longer significantly associated with reporting consulting about periods within the previous six months but this may be because of the smaller numbers involved. The most striking difference in comparing table 6.7 with table 6.5 is the lack of association between reporting periods lasting eight days or more and consulting amongst women with heavy or very heavy periods. This is presumably because women who reported periods lasting eight days or more but *not* heavy or very heavy periods have now been excluded. Similarly, the strength of association between reporting pain and reporting periods as a problem is also reduced in table 6.7 compared with table 6.5.

Consulting in general over the previous 12 months was closely associated with reports of consulting regarding periods in the previous six months as these questions covered the same time period, as discussed above. Consulting in general is therefore excluded from subsequent analyses.

	Reporting consulting about periods within past 6 months	
	Odds ratio	95% CI
Age Per 5 year increase in age	1.05	(0.88 – 1.26)
Parity Per stepwise increase (0, 1, 2 3 or more)	0.96	(0.81 – 1.14)
Postcode-derived deprivation Per stepwise increase in deprivation code (where 5 is most deprived)	1.29	(1.10 – 1.52)
Longstanding illness Yes vs. no	1.73	(1.16 – 2.58)
Contraception Hormonal contraceptive use vs. 'other' (IUCD users excluded)	1.14	(0.65 – 1.98)
Consulting in general over last 12m (2 or more vs. 0 or 1)	4.27	(2.81 – 6.49)
GHQ score 4/5 cutoff	1.58	(1.05 – 2.38)
How long bothering you (3 categories, as below, entered linearly)	0.67	(0.54 – 0.85)
How long bothering you (entered categorically): 2 yrs or less	1	
over 2 years to 5 years	0.78	(0.47 – 1.27)
over 5 years	0.45	(0.29 – 0.71)
V heavy loss vs. heavy loss	2.87	(1.78 – 4.63)
Severe/v severe pain vs. light/moderate pain	2.05	(1.36 – 3.09)
Periods last 8 days or more vs. 7 or less	1.56	(0.91 – 2.65)
Marked/severe problem vs. no/slight problem	3.44	(2.30 – 5.15)
Stop usual activities (most periods vs. some periods, rarely or never)	1.68	(1.34 – 2.09)
Have to get up at night (most periods vs. some periods, rarely or never)	1.45	(0.96 – 2.19)
Double sanitary protection (yes vs. no)	0.69	(0.47 – 1.01)

Table 6.7

Univariate odds ratios for consulting about periods within the past six months (reported on the first questionnaire) and other variables on the first or second questionnaires amongst respondents to the second questionnaire (i.e. women who reported heavy or very heavy periods on the first questionnaire)

NB. Missing data for consulting about periods in past 6 months was 48/633 (7.6%) amongst this subgroup. These cases are excluded from the analysis.

Table 6.8 shows a multivariate model for consulting amongst women reporting heavy or very heavy periods using the same variables as in the model for all women presented above (table 6.6, page 275), in order to allow comparison. The number of cases included is obviously far smaller (n = 517 compared with n = 1871) and the chi-squared statistic for goodness-of-fit for the overall model is smaller (48 compared with 191). In step 1, relationships between individual characteristic variables and consulting show slight changes: the weak association between parity and consulting is now reversed, though non-significant; the association between reporting longstanding illness and consulting remains and is stronger; and the association between deprivation and consulting is now just statistically significant. However, the main impact of restricting the analysis to women who have reported their periods as heavy or very heavy is in step 2 showing the relationships between menstrual symptoms and reporting consulting about periods within the past six months. The odds ratios for reporting consulting in the presence of pain and periods lasting eight days or more are now diminished, the latter no longer being statistically significant and pain only just so. When 'problem' is available to the model in step 3 then none of the menstrual symptoms remain significantly associated with consulting about periods, and 'problem' is slightly less predictive of consulting than it was amongst all women (table 6.6).

	Reporting consulting about periods in past 6 months on first questionnaire					
	STEP 1		*STEP 2*		*STEP 3*	
	Chi-squ=12, df=5 p=0.030		Chi-squ (step)=18, df=3 p<0.001		Chi-squ (step)=18, df=1 p<0.001	
	OR	95% CI	OR	95% CI	OR	95% CI
Age						
Per 5 year increase in age	1.11	(0.90 – 1.38)	1.10	(0.88 – 1.36)	1.05	(0.84 – 1.32)
Parity						
Per stepwise increase (0, 1, 2, 3 or more)	0.91	(0.75 – 1.11)	0.93	(0.75 – 1.14)	0.91	(0.74 – 1.12)
Postcode-derived deprivation						
Per stepwise increase in deprivation code (where 5 is most deprived)	1.21	(1.03 – 1.44)	1.17	(0.98 – 1.39)	1.15	(0.96 – 1.38)
Longstanding illness						
Yes vs. no	1.70	(1.11 – 2.61)	1.59	(1.02 – 2.48)	1.60	(1.02 – 2.52)
Contraception						
Hormonal contraceptive use vs. 'other' (IUCD users excluded)	1.28	(0.70 – 2.36)	1.53	(0.82 – 2.86)	1.64	(0.87 – 3.11)
Heaviness						
V heavy vs. light/mod/heavy loss			2.28	(1.34 – 3.88)	1.56	(0.90 – 2.73)
Pain						
Severe/v severe vs. light/mod pain			1.59	(1.01 – 2.52)	0.91	(0.54 – 1.53)
Length of periods						
8 days or more vs. 7 days or less			1.37	(0.75 – 2.49)	1.21	(0.66 – 2.23)
Problem						
Marked/severe vs. no/slight problem					3.18	(1.86 – 5.43)

Table 6.8
Multivariate logistic regression for consulting about periods within the past 6 months (reported on the first questionnaire) amongst women responding to the second questionnaire (i.e. women who reported heavy or very heavy periods on the first questionnaire)

N = 517

Further information relevant to consulting was available from the second questionnaire and a multivariate model was developed using this, including individual characteristics and all available variables found to be univariately associated with reporting consulting within the past six months on the first (screening) questionnaire (table 6.9). This was carried out in two steps, excluding and including reporting periods as a problem. Step 1 shows that reporting consulting within the past six months on the screening questionnaire was associated with reporting periods as 'very heavy' rather than 'heavy', stopping activities during most periods and duration of symptoms, i.e. women with shorter duration of symptoms were more likely to report consulting. GHQ, pain and periods lasting eight days or more, were not significantly associated with consulting on multivariate analysis. Step 2 shows that reporting periods as a problem is, once again, strongly associated with reporting consulting and, once 'problem' is available to the model, reporting very heavy periods is no longer significantly associated with consulting.

It is very interesting that, amongst women who had reported heavy or very heavy periods, pain was a much less significant factor in consulting than amongst all women. Pain remained just significantly associated with consulting when only limited symptom variables from the first questionnaire were included in the analysis and then no longer significant once more variables were available to the model. Adding variables individually revealed that the relationship between pain and consulting became non-significant on adding *any one* of the symptom impact variables regarding stopping usual activities, getting up to change sanitary protection

at night or wearing double sanitary protection. This could have been because of overlap between reporting pain and impact variables. It is less surprising that reporting periods lasting eight days or more was not significantly associated with consulting on the multivariate model as it was not found to be univariately associated with consulting amongst women reporting heavy or very heavy periods.

	Reporting consulting about periods in past 6 months on first questionnaire			
	STEP 1		*STEP 2*	
	Chi-squ=49, df=11 p<0.001		Chi-squ (step)=14 df=1, p<0.001	
	OR	95% CI	OR	95% CI
Age				
Per 5 year increase in age	1.07	(0.84 – 1.36)	1.02	(0.80 – 1.30)
Parity				
Per stepwise increase (0, 1, 2, 3 or more)	0.91	(0.72 – 1.14)	0.89	(0.71 – 1.13)
Postcode-derived deprivation				
Per stepwise increase in deprivation code (where 5 is most deprived)	1.12	(0.92 – 1.36)	1.10	(0.90 – 1.35)
Longstanding illness				
Yes vs. no	1.46	(0.89 – 2.40)	1.49	(0.90 – 2.46)
Contraception				
Hormonal contraceptive use vs. 'other' (IUCD users excluded)	1.34	(0.66 – 2.74)	1.41	(0.68 – 2.93)
GHQ score				
5 or over vs. 4 or less	1.29	(0.78 – 2.15)	1.29	(0.77 – 2.16)
How long bothering you:				
Per step increase (2 yrs or less, over 2 yrs to 5 yrs, over 5 yrs)	0.59	(0.45 – 0.77)	0.57	(0.43 – 0.75)
Heaviness				
V heavy vs. light/mod/heavy loss	2.12	(1.24 – 3.71)	1.64	(0.89 – 3.01)
Pain				
Sev./v sev. vs. light/mod pain	1.39	(0.85 – 2.28)	0.90	(0.50 – 1.61)
Length of periods				
8 days or more vs. 7 days or less	1.13	(0.60 – 2.10)	0.97	(0.49 – 1.92)
Stop usual activities during periods				
most vs. some, rarely or never	1.59	(1.22 – 2.06)	1.62	(1.22 – 2.14)
Problem				
Marked/severe vs. no/slight			2.94	(1.65 – 5.23)

Table 6.9

Multivariate logistic regression for consulting about periods within the past 6 months (reported on the first questionnaire adding all individual characteristic variables and all other variables that were significant on univariate analyses. Analysis includes women responding to the second questionnaire (i.e. having reported their periods as heavy or very heavy on the first questionnaire).

N=442

Interaction terms were tested for but none were found to be statistically significant.

In summary, amongst all respondents to the first (screening) questionnaire, all three menstrual symptoms (heaviness, pain, periods lasting over a week) were associated with reporting consulting within the previous six months. Once reporting periods as a problem was available to the model, the only symptom which remained significantly associated with consulting was periods lasting eight days or more. Amongst women reporting heavy or very heavy periods, consulting was associated with shorter duration of symptoms, reporting very heavy rather than heavy periods and reporting stopping usual activities most periods. Once reporting periods as a problem was available to the model, reporting very heavy periods was no longer a statistically significant association with consulting.

I shall now explore how women reporting heavy or very heavy periods spoke about decisions to consult about periods using available qualitative data.

6.2 Qualitative data on help-seeking

In examining the qualitative data I shall first explore why women consulted about their periods in order to allow comparison and interaction with the quantitative findings. I shall also consider reasons given for *not* consulting about periods, which leads on to an exploration of how period problems were viewed in terms of being 'illness' or not.

Exploring why women consult regarding periods was specifically raised in the interview, unless the interviewee raised it herself first (which was frequently the case). I asked everyone 'Have you ever got advice from a GP about your periods?' if they had not already covered this. Prompts then included; 'Was it helpful?' 'Have you ever seen anyone else about your periods?' 'What was it that made you decide to go and see the GP (or whoever)?' or 'Was there anything in particular you were hoping for, or anything in particular you were hoping the GP would do?' Finally, if appropriate, I asked 'Do you think your past experience of going to the GP would affect decisions in the future if you had problems with your periods?'

In discussing consulting I am mainly referring to consultations made in primary care. This usually meant consulting a GP but two interviewees had consulted doctors at a Family Planning Clinic instead and one had consulted Family Planning in addition to her GP. Two interviewees had consulted practice nurses but in both cases this was in

addition to consulting their GP. Eight of the 32 interviewees had consulted a gynaecologist in addition to consulting their GP. Seven interviewees said that they had never consulted any health professionals regarding periods. As a result of purposive sampling, a slightly higher proportion of interviewees than other respondents to the second questionnaire had reported consulting about periods in the past six months.

6.2.1 Why did women consult about periods?

The main factors women suggested as influencing decisions to consult about their periods were: the impact of symptoms; breakdown in the effectiveness of self-care; searching for an explanation for symptoms; or wishing to access resources only available through the doctor (such as prescription medication or referral to gynaecology). The latter was modified by past experience of consulting and consulting behaviour in general, for instance if they were consulting anyway. These points will be considered in turn.

The impact of symptoms was a prominent theme in how women spoke about decisions to consult. The embarrassment caused by 'accidents' of blood leakage was a prompt to consult for some, as was degree of impact on work. Sheila's response to my opening question was to tell me about how her periods (and having 'accidents') were so severe that she had had to attend and ask for treatment.

** Miriam:*
So can I just ask you to tell me a bit about what your periods are like in general?
** Sheila:*
Well I was actually at Family Planning and they've put me on the pill to try and regulate it. It has helped a wee bit because at one stage when I had them, when I was in the bath and there was great big clots coming away. And em, when I was at my work it coming through my overall, oh it was a disaster, and I had to go doon and tell them to dae something.

Her last comment links the impact of her heavy menstrual loss to the decision, or imperative as she puts it, to consult. The severity of symptoms was something which was linked with consulting in our quantitative findings. The main way in which interviewees seemed to refer to severity was in describing impact of symptoms, often given as a reason for consulting, as above.

As discussed in chapter four, context of everyday life was important in modifying the impact of symptoms. Several factors relating to the context of everyday life were put forward by interviewees as influencing whether GPs were consulted. These included employment status, type of work, family commitments, family illness and non-menstrual co-morbidity. However, in some accounts it could be seen that context not only modified impact, but also influenced consulting. Co-morbidity played a large part for some women, both in modifying the impact of symptoms and in directly influencing consulting. Elaine was very clear in her description of the influence of her longstanding depression on consulting regarding periods. She said she had declined gynaecological investigations at one point because of feeling particularly

depressed and that she was more likely to re-consult at times when her mood had lifted.

> *... there was a male Dr D, and he was good, and he was the one that was really suggesting that we look a bit further, em, but as I say I didn't follow that up [referring to laparoscopy]. Coupled with that I was quite depressed about other things and I think I fell into an acceptance, sort of thing. You know it's quite hard to measure that, you know, why didn't she follow that up if her periods were so bad. Well around that period I was just feeling bad about everything and I think my self esteem was so low, I did go through a kind of well this is just your lot, you know.*
>
> ...
>
> ** Miriam:*
>
> *Can you remember what it was that made you go back that time?*
>
> ** Elaine:*
>
> *I think I would put up with it for so long and accept it and then out of the blue, again maybe related to if I was perking up in general, that I would say, well I'm going to go back and see about this again, maybe there is something else, maybe I haven't put my case forward enough, maybe I should go back again and explain to my GP look this really really is a problem, it's really a problem in my life. So that made me go along again after long periods.*

Effectiveness of self-care was another factor women spoke about regarding decision-making for consulting about periods and this was linked with impact of symptoms, for instance, if self-care measures were not adequate to prevent 'accidents' or pain from interfering with daily life. For example, Louise had consulted and had recently undergone a hysterectomy. In speaking about what had made her return to the GP to request further treatment she cited the unmanageability of her blood loss:

> ** Miriam:*
>
> *And can you remember at what point it was that made you think that was enough?*
>
> ** Louise:*

I just think it was the flooding more than anything else. Had it just been heavy bleeding I could have coped with it but it was more or less, you know it almost felt like it all came away at once and that made it worse you know because I couldnae control it almost, you know when you've got a heavy period, nine times out of ten you can control it, but I was flooding it was just all ching [indicates sudden flood with hands] and I think that was at the point when I thought right that's it... And I don't know if I had reached the point of no return.

Diane said she was less bothered by her periods now than when she was younger but, in response to my asking what she would do if they became problematic again, she stressed attempting to cope with them herself first before consulting:

** Miriam:*
And if you did develop problems, what would you do?
** Diane:*
Em, I'd probably go back to see a GP if there was any problems that I didn't think I could cope with.
** Miriam:*
Right. And you said that your periods have changed a bit over the last couple of years. Why do you think that is?
** Diane:*
Well I just think that as you get a bit older and possibly as you maybe come closer to the menopause they maybe change. Some periods I'll have maybe two or three days of very heavy bleeding and then em, a couple of days of next to nothing, or it can be you know fairly constant through five days or whatever and where lately maybe pass large clots or whatever where I've never had that in the past. Where I have just thought that is my body changing as I'm getting older, where maybe if I was much younger I would have seen that as something maybe wrong, that I could maybe, that I shouldn't be having. I wouldn't rush round to the GP just because I've got a heavy period, it would only be if something was drastically different like a real severe pain or severe flooding periods or em, I think when I can manage the symptoms myself I will do.

Only a few interviewees mentioned consulting because of a concern that their heavy periods might be a sign that something was wrong. Katherine had experienced heavier periods over the year or two prior to her interview and was considering consulting her doctor for a third time to check there was nothing wrong:

> ** Miriam:*
> *And what is it that makes you think about going to see the GP again?*
> ** Katherine:*
> *Again, it's just you know I suppose you know to check that everything is normal, that nothing is happening. Em, I suppose I don't know, it's not connected at all, but I suppose it sort of does kind of connect in your own brain, is that sort of my last smear test came back and it was one of those ones that they had to do a repeat scan and six months later because it was showing signs of pre-cancerous whatever, and the next one was fine, em, but again because of being neurotic, you sort of think oh well they always make mistakes and even although they are totally unconnected and I think they are unconnected that does kind of go through your head.*

Katherine, it seems, had developed a potentially threatening explanation for her change in menstrual cycle, namely a possible link with a cervical smear that needed to be repeated. Most women, however, did not raise concerns that their heavy periods were a sign of something wrong and consulting the GP in order for an explanation of symptoms was not a strong feature in their accounts. It may be that they had been worried at some point but, having had this worry allayed, or having received reassurance or a benign explanation for their symptoms, this was no longer relevant so was not raised at interview. Many had developed their own explanations for their heavy periods, either on their own or through discussions within their social circle. Fiona, for instance, had not consulted her GP about periods. She had developed two

possible explanations for her periods having changed; firstly being in her forties and secondly that she was prescribed the wrong pill some months ago (the latter not included in data excerpt below):

> ** Miriam:*
> *Why would you not make a specific visit [to the GP about periods]?*
> ** Fiona:*
> *Because I don't feel at the moment it's really affecting my life you know. As I say I'm not concerned that I think there is something wrong with me, I just think it's the form that my periods have changed and it maybe is to do with me being you know in my forties and whatever, but if I was having pain, a great deal of pain or my periods were exceptionally heavy all the time I would have gone.*

It was discussed in the previous chapter how women obtained reassurance about symptoms through informal consulting, for instance Shirley had been reassured through talking to her mother that a change in menstrual cycle was not unusual on approaching the menopause (page 250). Quantitative data presented earlier in this chapter suggested that symptoms of more recent onset were more likely to lead to consulting. Indeed, findings from the principal component analysis in chapter 4 (table 4.11, page 201), showed that worry about a recent change in symptoms was important in perceiving periods as a problem. However, concern or worry about a recent change was not a prominent theme in the qualitative data. Many had already reached some sort of explanation for symptoms either alone or in discussion with lay others. This may be because of the far smaller numbers involved in the qualitative study and that most women interviewed had relatively longstanding symptoms. Katherine is a notable exception in that she spoke about a recent change in cycle and

a potentially worrying explanation for this (her previous repeated smears). Indeed, consulting in order to seek reassurance and explanation seemed far more relevant to her than to other interviewees.

Another theme around decisions to consult was what women thought was available from the GP. Most women had clear ideas of what they thought the doctor could and couldn't do in order to help with periods. Margaret, for instance, said she had decided she wanted a hysterectomy and consulted her GP and gynaecologist repeatedly until she received one. However, *not* wanting what they thought the doctor would offer was also a factor in women's decisions *not* to consult. For instance, Clare did not want to take tablets so did not plan to consult her GP again.

> ** Miriam:*
> *After your pregnancy your periods, if they were heavy again, would you consider going back to the GP?*
> ** Clare:*
> *Well my long term plan is to have a hysterectomy. Em, but yeah, that's my long term plan. I don't know, I don't think I would go back to my GP because it seems that the only answer he has got is to take the tablets.*

Past experience of consulting was cited by women in influencing their views regarding consulting for periods. There were several stories of dismissive responses following visits to the doctor for period problems, especially amongst women speaking about consulting in their teenaged years. This may have led women to think that there was no point consulting about periods as no help would be offered anyway. For instance, Alison's account of her first consultation regarding periods was not a

positive one. She had consulted with her mother when she was aged 14, was told that her period pain would improve when she had children and received no other advice or treatment. She went back to a GP while at college for contraception as well as menstrual symptoms, then re-consulted on starting work, then again due to a pill scare in the media and wanting to change her pill anyway due to headaches. She continued to consult despite her initial negative experience but always with a very specific reason, such as wishing to access contraception or painkillers.

> *Miriam:*
> *And how many times do you think you did see your GP altogether?*
> *Alison:*
> *Em perhaps three or four times just specifically about that, about four times. I mean my GP at home wasn't terribly sympathetic, but he was kind of my mum's GP as well and she's got exactly the same kind of cycle problems that I have and it seems to be a kind of family thing, deal with it. (Laughter)... Well eh, he was kind of like "it'll get better when you have children", whatever (Laughter) when you're fourteen, it's not that good (Laughter) you think, "Great, thanks, looking forward".*
> ...
> *Miriam:*
> *What kind of response did you get that time? [referring to most recent consultation]*
> *Alison:*
> *They were fine, they were really, really good, em, and I got mefenamic acid the first time, tried that, em, there didn't seem to be many other options though for pain relief, apart from the mefenamic acid.*

Alison's more positive interpretation of her most recent consultation could be viewed as the result of low expectations as, despite having only been offered mefenamic acid for pain relief, something which did not help her, she still feels she was offered good

treatment. Others had also not found their GPs particularly helpful regarding analgesia for period pain.

Joanne said that she generally had a lot of confidence in her GP and for this reason she intended to consult him again about her periods despite her main problem – period pain – not having been dealt with.

> *I've been tae my doctor an' he gave me something that I was supposed to take every day, they didn't work [norethisterone]. You know, I had to take them all the time, right throughout the month an' I didn't like the thought of that for a start an', you know, I just wanted a stronger painkiller really. I think they were some sort of hormonal thing and I just stopped taking them 'cause they didn't make any difference, eh...*
>
> Joanne

Some women referred to their general approach to consulting when asked whether they had consulted or intended to consult about periods. Andrea, for instance, described herself as someone who would put off consulting for anything.

> ** Miriam:*
> *Have you ever thought about going and talking to them about it?*
> ** Andrea:*
> *No, I just can't bring myself to because I think there are people ill, you know why should I take up that time you know when they have to look after people who are really sick, you know mines are just periods, and that's it, that's how I see it. That there are more people with worse illnesses than what I've got, I mean this is just about periods even although it drives me up the wall and stuff but I still think nut, I'm not going to say anything until eventually if it finally gets to a stage where I have to say something I will. I've always been like that, with any illnesses it takes me ages to go there before I say anything.*

Others said they had consulted about periods because they were consulting for something else anyway. Leah and Sophie both reported using IUCDs for contraception and that they would not have consulted, had it not been that they were having an IUCD check anyway and felt it relevant to mention their periods at that point. Mary said she saw her GP on a regular basis for prescription of anti-depressant medication and had taken this opportunity to speak to him about her periods on several occasions.

Before moving on to a consideration of reasons why women did not consult about period problems, I shall consider our qualitative findings so far regarding consulting in the context of existing literature. O'Flynn and Britten (2000) found that women spoke about concern at a recent change in menstrual cycle as a reason for consulting in primary care. Protheroe and Chew-Graham (2004), in their interviews amongst women attending gynaecology out-patients for heavy menstrual bleeding, found that one of the reasons women gave for attending secondary care was to seek a diagnosis for their symptoms. This was not a noticeable theme in our qualitative data, perhaps because of the different sampling frame used. Consulters in secondary care are likely to differ from those in a community sample in terms of the nature and severity of symptoms, personal factors as well as being at a different stage in their 'illness' trajectory, or recency of onset of symptoms. Most women in our study seemed to have already reached some sort of explanation either themselves or in conjunction

with discussions with lay others, so may not have felt the need for additional information from a doctor to help explain their symptoms.

Telles and Pollack (1981) found that patients learned what was required from them in the consultation from prior experiences of what the doctor considered to be legitimate illness. From our data it appeared that women might be receiving a message that menstrual pain is not a legitimate reason for consulting, or perhaps a pointless reason for consulting in that this symptom was not always addressed at consultation. Accounts of women finding concerns about analgesia for menstrual pain not really being dealt with may be tied to a perceived medical focus on volume of loss as found in other qualitative studies (O'Flynn and Britten, 2000; Marshall, 1998). Furthermore, studies carried out amongst women consulting for heavy menstrual bleeding in secondary care have found dissatisfaction with the way in which their symptoms were managed in primary care (Chapple, 1999; Protheroe and Chew-Graham, 2004). This dissatisfaction is echoed in accounts generated amongst our study group, some of whom said they felt their menstrual problem was not taken seriously. Past experience of consulting may have shaped what they expected to be able to access and therefore shaped subsequent behaviour.

Our finding of a sometimes rather partial view of the treatments available for heavy menstrual bleeding, with a greater awareness of hysterectomy than other treatments, concurs with the findings of Protheroe and Chew-Graham (2004). They found that

women held firm views about available treatment options, but were generally more aware of hysterectomy than other options or, where they were aware of tablets, did not view these as a treatment. They found that the desire for definitive treatment was an important factor in help-seeking in their sample. This contrasts with our findings where women in the community were sometimes not consulting because they did not want the treatments that they thought they would be offered. Taken together, these findings suggest that, although the views and priorities of women attending secondary care are different from women reporting heavy periods in a community survey, the body of lay information which both groups draw upon is similar.

6.2.3 Why do women not consult about periods?

Several of the factors mentioned above were influential in decisions **not** to consult regarding periods, for instance not wishing to access the doctor's perceived resources ('not wanting what I think I'll get'), absence of concern that menstrual symptoms might be a sign of 'something wrong', negative past experiences of consulting about periods or a general reluctance to consult. Other factors mentioned by women in mitigating against consulting were: the intermittent nature of menstrual symptoms; and the perceived 'triviality' of menstrual symptoms; or the view that 'everyone gets them' (periods, that is), linked with views of period problems as 'not real illness'.

Several women said that the intermittent nature of menstrual symptoms made it easy to delay taking action about them, either intermittent in terms of just occurring

(approximately) monthly, or even more intermittent in that not all periods were problematic. Shirley recounted that it was only when consecutive periods started causing her difficulty that she thought she might need to consult:

> ** Miriam:*
> *Can you remember when the first time was in the last few months that made you think might I need to go back and see about this?*
> ** Shirley:*
> *I think it was the first period of the three months, and then I was thinking, em, sometimes you could make dae with it. Like one month was alright and the second month was a kind of rotten month, but like these three have just been all rotten, ken, from the first yin to the third yin, I'm actually dreading this one coming, ken, in fact I think it's due next week or something and I'm dreading it because it's going to be hell, just that feeling that you cannae dae nothing, cannae be bothered daeing anything, just too tired, ken what I mean.*

The 'triviality' of periods has been alluded to in several data excerpts already, for instance describing periods as 'niggly things' or not wanting to consult due to seeming 'hysterical'. This shall be considered further in the following section.

6.2.4 Views of period problems: Is it illness?

Several phrases were used repeatedly in discussing periods or period problems such as 'everyone gets them', 'part of nature', or 'part and parcel of being a woman'. All of these could be taken to mean that women view menstrual problems very much as a normal part of life rather than illness. I shall therefore finish this chapter with an exploration of whether women viewed period problems as illness and related discourses such as viewing menstrual problems as part of being female, the

relevance, or not, of diagnostic labels and the moral implications around coping with heavy menstrual bleeding and other menstrual symptoms. Finally, I shall discuss the implications of these views of period problems for help-seeking. Whether or not menstrual symptoms were viewed as illness was not a theme with which I initially approached data collection and did not therefore appear in the interview schedule. Information regarding how periods were viewed therefore generally arose spontaneously and I shall attempt to contextualise any data drawn upon.

Mary explained explicitly why she did not view periods as 'illness'. She said she did not feel she needed to rest with periods as she would with 'illness as such'. This exchange occurred in discussing a period during which she said she had felt 'rotten' but carried on with her usual family responsibilities, worse that month due to having to care for an ill family member.

> ** Miriam:*
> *Were you tempted at all <u>not</u> to keep going despite the fact that you had all the extra things on your plate?*
> ** Mary:*
> *Yeah, well it's always tempting just to jump into bed, but em, I tend just to do that if there is nothing else pressing to do. But em, otherwise if I've got commitments I just keep going with them and probably go to bed earlier at night.*
> ** Miriam:*
> *Is there any particular reason why you feel that you need to keep going even if you would like to go to bed or whatever?*
> ** Mary:*
> *Because if I didn't keep going who would do what needed to be done I suppose. [pause] I suppose part of it is a slight feeling of it's almost a luxury to be able to give into it and just have a couple of hours lying down. Because it's not an illness as such but it can make you feel pretty grotty. But there is just this part that feels well they will go in a couple of days and just keep taking the tablets.*

** Miriam:*
And how do you mean that it's not an illness as such?
** Mary:*
Em, it's just a normal part of life. Perhaps more exaggerated in my case than some people, but I know other people have a worse time than me.

Accounts of whether menstrual symptoms were a problem or not generally seemed more relevant to women than whether menstrual symptoms constituted illness. From the start of her interview Louise spoke in terms of what level of problem different women might put up with rather than in terms of illness or disease:

** Miriam:*
Have you got any questions at all? [before start of interview]
** Louise:*
Not really, you are just obviously trying to gather information. Obviously all women are different and what is a problem for me maybe wouldn't be a problem for somebody else. So are you are just trying to find out what is a problem for me?

Later in the interview Louise elaborates on this further:

I think a lot of it is what you are prepared to put up with. And I think I just got to the point where I thought right I'm no prepared to put up with this any more.
** Miriam:*
Do you think other people would have different ...?
** Louise:*
Well I think other people would maybe have put up with it longer, or put up with it less.

Kirsty also deliberated at several points in her interview whether or not she could say her periods were a problem. She had not consulted about periods for several years, had not missed work and, for her, the main debate about whether her periods were a

problem focused on whether or not to take painkillers. She seemed to have mixed feelings about this, on the one hand saying she was being a 'moaning minny' by self-medicating for something which was 'part and parcel' of being female, while on the other hand saying that not taking anything would mean unnecessarily 'being a martyr'. Kirsty was one of several interviewees who bypassed the issue of whether or not period problems could be classed as an illness, to focus instead on whether or not periods were a problem, and whether they were a legitimate reason for self-medication.

> ** Miriam:*
> *Right, and you said that it's not something that should bother you, but it does?*
> ** Kirsty:*
> *Yeah, I think it's just an attitude to myself sometimes, em, that em, do you know it's hard to say what I do mean. I have a funny attitude that I mean it's kinda like it is part and parcel, it's like it happens to most, you know, a lot of people. My Mum's always said "You know, you get sore" and all the rest of it, so you know, it's like I'm no different to anybody else, so why should I be moaning Minny kinda think about that kinda thing, so I always say to myself, you know, it's like... I mean it obviously does bother me and so I might take something for it kinda thing, but em, I just think, I just feel like I'm making a fuss in my own head about it, being a martyr by not taking anything. (Laughter) And now I'm just like saying, "You're an idiot", so I do you know...*

Views around not altering activities or not consulting on account of menstrual symptoms seemed to be linked to their being 'part and parcel' of being female. Joanne, for instance, related her efforts not to let periods interfere with her life to their being part of being a woman. This arose in the context of discussing her sometimes missing work but always trying hard not to.

> ** Miriam:*
> *And when you say it's something that you just have to get on with, where does that feeling come from, that you have to just get on with it?*
> ** Joanne:*
> *Well they're not gonna go away [periods], so... I'm a woman an' that's just the reason... as far as you can tell, so just get on with it, that's just my attitude in life generally. Just get on... get your head down an' get on with it.*

Mary, while rejecting 'chauvinistic' views that heavy periods were something that were 'just women's problems' which had to be put up with, likened them with pregnancy in that, although not illness, they could be problematic. Anita, a midwife, drew the analogy between periods and childbirth, both of which, she felt, involve an element of pain which has to be put up with.

> *I just accept the fact that that is how it is, that periods do have an element of pain, it's like childbirth. Childbirth has an element of pain to it, whether people like it or not it's got an element of pain and you can't always take that away. Em, it's just acceptance of the fact that it's part and parcel of the whole thing.*
>
> Anita

Many women with period problems do not receive a diagnostic label for their symptoms and this may be a factor both in contributing to the indistinct boundary between 'normal' and 'problem' periods but also, possibly, in generating a view of menstrual problems as 'not real illness'. Tracy said she was glad that she did not have fibroids, yet still felt she had a problem. She seemed to imply that the lack of diagnosis made a difference to the perception of the validity of her problem.

> *... when I went to the hospital they said, you know they were nice enough but I don't know, "Well it's a period and you know everybody goes through this and how bad is it and there are people with fibroids and you don't seem to have anything like that," so you are sort of left thinking, I don't have anything like that and I'm glad I don't have anything like that but I still do have a problem.*
>
> Tracy

On the other hand, Louise had been told that she had an enlarged uterus and Mary had been told she had a fibroid. Despite this, neither seemed to view their period problems as constituting illness. Louise, as presented above (page 301), spoke very much in terms of defining whether they were a problem for her rather than choosing an illness discourse and Mary was quite explicit in her account that her periods, though problematic, were not 'illness' (page 300).

Receiving a diagnostic label did, conversely, seem important to two women in coming to terms with their symptoms. Belinda and Margaret both told about how they had been diagnosed with endometriosis after many years of severe period pain. This diagnosis had led to further treatment options and, in Margaret's case, greater understanding from colleagues. Margaret was the only interviewee who spoke emphatically about wanting to class her menstrual problems as illness. She said she had suffered for years while being told that she did not have an illness but her diagnosis of endometriosis helped her enormously, resulting eventually in hysterectomy which she had previously been told she was too young for. I present a

lot of the data here because it is in the context of her whole story that the implications of her eventual diagnosis can be understood.

> ** Miriam:*
> *Can I ask you first of all just to tell me a bit about what your periods were like in general?*
> ** Margaret:*
> *Well it started when I was 16. Em, I would take really bad cramps and stuff... They never called it endometriosis at the time it was called oh you've just got to get on with it like sort of thing. Em, my mum took me to the doctors and like as I say we got tablets and stuff like that but it was nothing, I never got anything if you know what I mean, it was a part of life that you just had to get on like...*

Later in the interview she introduced the topic of others not understanding or believing the severity of her symptoms:

> *You know and another thing I want to say to you is when, like I've worked in factories since I was 16 right, when you tried to explain it to another girl what you are actually going through, how you actually feel at the time of the month, they all laugh at you. They think well we all go through that but they only go through half the pain what you are actually going through like and it's no funny.*
> ** Miriam:*
> *You mean at work?*
> ** Margaret:*
> *Aye, even like a woman GP, thought och it's a woman's thing you've just got to get on with it, sort of thing.*
> *...*
> ** Miriam:*
> *And was there anything else that people have said to you at your work?*
> ** Margaret:*
> *They thought I was making it up, if you know what I mean. A lot of people just didnae understand what I was talking about. Then this lady that I became very good friends with, one day she looked at me and she said it's the time of the month isn't it, and I said aye, she said you know my sister has got the same problem as what you are having. So I thought I was on my own and she actually said to me she said what have you got and I said I've got endometriosis and she said well that's what L has got. Then it triggered off from there.*

> *See a lot of people as I said at the beginning a lot of people don't know what endometriosis is, they don't understand what I go through or anybody who has actually got it goes through like you know, but it is according to me it should be classed as an illness.*

The importance of the diagnosis of endometriosis to Margaret seemed to lie in feeling assured that her periods were different from those that others were experiencing, particularly in justifying work absence, which had been a source of difficulty for her. For Margaret, the diagnostic label seemed to validate her illness behaviour. There is a link here with the theme presented in the previous chapter of 'everyone gets them'. However, what 'everyone gets' is periods, rather than menstrual pain or heavy loss, especially pain to the extent that Margaret was experiencing. The knowledge that some degree of heaviness or menstrual pain are so common that they can be viewed as normal, or the lack of definition about what constitutes a 'normal' period as opposed to a 'heavy' or 'excessively painful' period, then becomes problematic to those whose symptoms are most severe.

Having explored how women view period problems, I will now turn to the implications of this for health behaviour. If menstrual symptoms are not really viewed as illness then it might be morally problematic to adopt illness behaviours such as resting, missing work, or consulting a doctor. On the whole this moral dimension came out most strongly when women were talking about others, sometimes presenting accounts that 'distanced' themselves from women they thought

overly liable to adopting the sick role in response to menstrual problems. Diane was critical of a colleague who, she said, treated periods 'as if it was an illness'.

> *There's a girl at work who, she's not actually sick but she would instantly know when her period had started, she would say oh my period has started as if it was an illness. And em, it just wasn't, I don't know, just wouldn't work as hard or do the usual jobs that we would do she would try and, not get out of these things but you knew that she was wanting you to take on more of her jobs as well I think because she had her period.*
>
> Diane

The above data excerpt highlights the way in which menstrual symptoms were not generally presented as being a legitimate reason for allowing any interference with carrying out usual work roles.

Amongst those who spoke about having difficulty managing their symptoms, there was some ambivalence about work absence. Anna (as mentioned before, page 234) adapted her work routine but was keen to point out that she got the same amount of work done overall. Kirsty spoke about periods not really being a 'valid excuse' for work absence, although she distances herself from this view by presenting this as a 'discriminatory' social attitude.

> ** Miriam:*
> *And where do you think the feeling came from, for you, this feeling that it's something that you just need to get on with?*
> ** Kirsty:*
> *Em, I suppose it's kind of like, em, a kind of social attitude in some ways, in that, you're a girl, you've got a period, you*

> *can't use it as an excuse as not to go to work or do anything like that. Em, because, you know, you don't want some bloke coming up and sayin' "That's..." you know, it's like a chauvinistic thing, well not maybe chauvinistic, but discriminating and it would be like you would playing on something that isn't really a valid excuse.*

Those who had missed time off work went to some length to explain just how unwell they had been, how others had corroborated this and advised them to go home. Others had given false reasons for missing time off work.

The view of periods as 'not real illness' seemed to relate to help-seeking as well as work absence. Anita responded to my opening question in terms of periods being 'part and parcel' of being female and linking this with not consulting.

> * *Miriam:*
> *And em, can I ask you first of all just to tell me a bit about what your periods are like in general?*
> * *Anita:*
> *Em, they last about three to four days, they are quite regular and they are often, about midway through, about fourteen days before I have them you get this feeling of sort of bloatedness. Em, and the first couple of days they are usually quite painful, quite heavy. That's about it really. But I've never sought any advice or anything, I've just sort of accepted that that is part and parcel of em being female I suppose.*

Many women expressed a reluctance to consult about periods, although most had done so at some point. Tracy explained that she did not like to consult about periods,

despite them causing her considerable difficulties, because 'all females have periods':

> ** Miriam:*
> *You said at one point you felt a bit of a fraud going to the doctor about periods. Could you say a bit more about why that is?*
> ** Tracy:*
> *Well I think it's just the way you are brought up, you know, you are a female so you are going to have periods and you just get on with it, and I think you hear a lot of older people saying you know well we had to put up with it for years and it's you young people you just don't know what it's like to suffer and things like this and I mean all females have periods. I just feel a bit, you know doctors are for people who are really, really ill and I don't class myself as being ill. It's just an inconvenience and a pain, em, and also then to go into hospital for something. I mean, I don't know, when that doctor said to me about having a hysterectomy I mean I was really, really taken aback because I honestly thought it was just for people who had big, big problems.*

Women frequently asked about periods while consulting about something else and some linked this to views of periods as being too 'trivial' to consult about on their own. Katherine told me she had consulted twice about her periods because she was concerned that they had become heavier. On both occasions this had been at the same time as consulting about something else. This may have been a factor in what she reported as her symptoms and concerns not being adequately dealt with.

> *Miriam*
> *You said at one point it wasn't the sort of thing you would go about just by itself. Why is that?*
> *Katherine*
> *Em, I don't know, maybe it's my age and it's like periods are a curse that have got to be put up with. Maybe, I don't know, but it seems trivial. Because if you have been told once that there is no medical problem then you kind of I suppose that you might feel that you are making a fuss about something*

> *that you should just put up with. I mean I suppose when it comes down to it it's sort of I suppose I don't want to be thought of as a person who is a kind of panic merchant, or that word hysterical, which has it's origins. Or a fusser, I think that is a better word.*

The emphasis on self-care and 'learning to cope' presented in the previous chapter is relevant here in building a picture of a condition in which many seem to feel an imperative to avoid symptoms having an impact on daily life so far as possible, and a reluctance to consult unless absolutely necessary. The problematic moral status or legitimacy of 'health problems which are not an illness' clearly has implications in terms of formal help-seeking. If something is not really viewed as illness, then it would seem that help-seeking might require special justification if individuals are to present themselves as 'moral' users of health services.

Overall, we found a widespread view of menstrual symptoms as not 'real illness'. Indeed, the frequent occurrence in our study of terms such as 'natural' or 'normal' to refer to periods and period problems is interesting in the context of Dingwall's (1976) definition of illness as 'absence of normality'. As presented in the literature review, Cornwell (1984) wrote about concepts of illness in terms of a 'tri-partite classification': 'normal' illness, e.g. infectious childhood illnesses; 'real' illness, e.g. cancer and CHD; and 'health problems which are not illness'. She includes problems associated with the reproductive cycle as well as problems associated with ageing in the third category. Locker (1981) developed a similar category of 'problems that are routinised'. Cornwell writes that common features of conditions in this category are

that: the moral status of the condition is problematic; self-treatment is more likely to be advocated than for other conditions; and they are thought not to be amenable to medical treatment. Locker points out that there is an inevitable moral dimension to conditions which are not viewed as legitimate illness. Illness behaviours such as resting, not going to work, or going to the doctor may be viewed as conferring other benefits and alternative interpretations may be made, such as malingering. Locker suggests that the 'search for meaning' may be less salient in 'health problems which are not illness' than in other conditions. We found that a search for meaning was salient but that, on the whole, explanations for symptoms had often been reached either alone or in consultation with lay others.

Certainly, self-treatment for heavy menstrual bleeding was espoused and there was a strong emphasis on 'coping'. Bury (1997) has pointed out the importance of 'coping' with bodily matters successfully in chronic illness in order to achieve 'cultural competence'. It could be that, by having an additional link with being female, period problems carry an extra burden of needing to cope successfully in order to be viewed as adequately fulfilling the female role. The recurrence of accounts regarding having to 'carry on' caring for others and/or managing work responsibilities, may point to a double moral imperative of being seen to successfully fulfil the female role as well as not adopting illness behaviour for a condition of questionable legitimacy.

6.3 Summary

Consulting about periods in the past six months was reported by 18% of all women, 25% of those reporting 'heavy' loss (or worse), 43% of 'very heavy' loss, 34% severe pain and 38% reporting their periods as a marked or severe problem. Most women (59%) who reported heavy or very heavy periods had consulted the GP at some point. There was a substantial subgroup who had never consulted despite reporting periods as heavy or very heavy and as a marked or severe problem (21%). There was also a substantial subgroup of women reporting their periods as heavy or very heavy who had consulted twice or more in the past 12 months (28%). Amongst all women, consulting about periods was associated with reporting very heavy loss, severe menstrual pain and periods lasting eight days or more. Amongst women reporting heavy or very heavy periods, consulting was associated with reporting resting, very heavy loss and shorter duration of symptoms.

Qualitative data suggested that consulting was closely linked with impact of symptoms, effectiveness (or not) of self-care, wishing to access resources available through the GP or occasionally concern that symptoms might be a sign of something wrong. Several of these were also reasons for not consulting, such as not wishing to access the resources (or lack of them) that the GP was perceived as having available. Women often thought they knew what they would be offered if they did consult, either on the basis of past consultations or as a result of informal discussions within the social circle, although sometimes this knowledge was incomplete. Other factors

mitigating against consulting for periods include the intermittent nature of menstrual symptoms and the views of period problems as 'not real illness' and therefore not something to consult with, although sometimes women resolved this by asking about periods while consulting for something else.

Many interviewees spoke about period problems as 'not real illness' and, generally speaking, 'Is it a problem' seemed a more relevant question than, 'Is it illness?' Viewing period problems as a 'health problem which is not an illness' carries the implication that this should be managed (or 'coped with') by self-care and that adoption of illness behaviours such as consulting, rest and work absence are of questionable legitimacy. Views of period problems as 'not real illness' could be linked with how common they are ('everyone gets it') or the indistinct boundary between a 'normal' period and 'excessive' heaviness or menstrual pain.

Chapter seven

Discussion and Conclusions

In this chapter I first discuss the strengths and weaknesses of this study, then reflect on some of the benefits and difficulties of combining quantitative and qualitative research. I go on to discuss the main findings of the research presented here in the context of existing literature and the implications of these findings for primary care.

7.1 Strengths and weaknesses of the study

Our community-based sampling strategy was both a strength and a weakness of this study. Studying a population sample was a strength in terms of studying the epidemiology of heavy menstrual bleeding. However, by sampling in this way we are likely to have sampled more women with chronic than acute symptoms and this may have led to some limitations in examining consulting about periods. The community-based sampling was a strength for the purposes of gaining access to women who entirely self-manage as well as those who have consulted. However, while this might mean an under-representation of women with acute symptoms in the quantitative data, the smaller numbers involved in the qualitative sample means that these women may not be represented at all or may be represented in insufficient numbers to allow patterns to emerge. This may mean that we have under-sampled those most likely to consult and this could have influenced our findings. For instance, our qualitative finding regarding an emphasis on self-care could have been an artefact of our sampling method. Although self-care is widespread for all health problems, the degree of this varies by condition (Scambler and Scambler, 1984) and is a stronger

feature in chronic than acute symptoms (Verbrugge and Ascione, 1987). That an emphasis on self-care is not always found amongst women with heavy menstrual bleeding can be seen from the findings of O'Flynn and Britten (2000) and Protheroe and Chew-Graham (2004), for instance. However, both these studies sampled women who had recently consulted. It is also possible that a community sample of women, who have not necessarily consulted, talk differently to an interviewer interested in their experiences. In a consulting sample (such as that of O'Flynn and Britten or Protheroe and Chew-Graham) women may have unconsciously focused on their experiences of interacting with health professionals and treatment whereas in a community sample they may have focused on self-care management strategies. It is important to remember that data are a product of the research design and methods, so differences in respondents' accounts, and therefore researchers' analyses, are inevitable. Overall, any attempt at interpreting the relevance of these findings for other groups must bear in mind that we found an emphasis on self-care amongst women in a community sample who reported 'heavy' periods on a postal questionnaire.

An alternative study design based on incident cases, or consultations, might have been more powerful for examining consulting behaviour than a study design based on prevalent cases, with its inherent emphasis on those experiencing more chronic symptoms. However, this alternative would have led to a very different study focus with the exclusion of large numbers of women experiencing chronic symptoms or, in the case of consulters, with perhaps little belief or confidence in self-care. Study design is a pragmatic choice between

options and all will have advantages and disadvantages. It is important to bear in mind the implications of decisions around study design for the way in which data are generated and possible effects on findings. These reflections have implications for researching the epidemiology of consulting for commonly experienced symptoms in primary care, especially those of a more chronic nature. For instance, choice of study design and sampling strategy have implications for what type of 'sufferer' will be included in the study, especially where the symptom under consideration is highly prevalent. An alternative design would have been to base purposive qualitative sampling on results from a pilot questionnaire study, then use qualitative findings to inform questionnaire design for a larger survey.

Other qualitative studies carried out amongst women with heavy menstrual bleeding have included sampling methods such as 'snowballing' through community groups, where an initial contact is instrumental in finding further interviewees (Chapple, 1999), interviewing women who have been recruited to the study by their GPs (O'Flynn and Britten, 2000) or interviewing in gynaecology out-patient clinics (Marshall, 1998); Protheroe and Chew-Graham, 2004). Both the latter two methods mean that the study is restricted to the minority of women affected by heavy menstrual bleeding who have recently consulted or who have been referred to secondary care. Sampling through GPs has the additional disadvantage that entry into the study is dependent on GPs remembering to recruit patients. It has been shown that relatively low proportions of eligible patients may be recruited in such studies (Peto et

al, 1993) and little is generally known about the differences between those recruited and those not recruited. Snowballing has disadvantages in that participants are likely to be similar in social background and may be unusual in some way, for instance in the case of Chapple's study they were all attenders of community groups. All these methods of qualitative sampling therefore have limitations in terms of generalisability.

A final concern about using data from a community survey is the problematic status of 'symptoms' derived in this way. As discussed in chapter three, symptoms elicited by questionnaire do not equate to symptoms reported spontaneously, for instance in a general practice consultation. Caution therefore needs to be exercised in applying these epidemiological findings to clinical contexts, for instance when considering perception of periods as a problem. It is important to bear in mind the status of these 'elicited' symptoms when considering the conclusions to be drawn from the data. It seems probable that a far higher proportion of those spontaneously reporting menstrual symptoms to a doctor would perceive these to be a problem compared with those reporting menstrual symptoms on questionnaire. Our conclusion that reporting heavy menstrual bleeding on questionnaire is far more common than reporting periods as a problem is therefore an epidemiological observation and may not necessarily be generalisable to a clinical population.

Using data from the first and second questionnaires together in a cross-sectional exploration of consulting as presented in chapter six is problematic. Responses collected on different dates would be expected to be less closely correlated than responses collected within a single questionnaire. This difficulty would not have arisen had the first and second questionnaires been combined. This might also have been more efficient in terms of cost and time. However, by having a brief screening questionnaire followed by a more detailed questionnaire, we may have enhanced the response rate to the initial screening questionnaire and have stronger epidemiological data as a result. By looking at cross-sectional data and not longitudinal data in this thesis it was possible only to make inferences about associations and not about causality.

More unequivocal weaknesses of this study include issues of questionnaire design and including smoking on the second rather than the first questionnaire, as discussed in chapter three. While considerable time and discussion went into the design of the questionnaires, which were also piloted, there are several areas where this could have been improved. It was due to a weakness in questionnaire design that the question regarding consulting on the first (screening) questionnaire received a poor response rate. In the future I would spend even more time designing study instruments, and pilot them more extensively, including on the target population. The literature review was kept up-to-date during the course of this study in an informal way through browsing relevant journals, attending relevant conferences and through contact with researchers in the field. A formal updating of the

literature review prior to writing up the thesis may have yielded relevant recent material that I was unaware of.

One great strength of combining quantitative and qualitative methods in this study was the extent to which purposive sampling of qualitative interviewees could be targeted with respect to how they had responded to questionnaire items. This meant that the difficulty in developing a coherent analysis from the wide range of experiences in the qualitative sample could be addressed to some extent as the study progressed by selectively contacting women who had reported their periods as a problem. It also meant that it was possible to check that the qualitative sample was broadly representative of the group under study on key parameters. The weakness of basing our qualitative sample on the survey sample was the probable bias towards those with more chronic symptoms, as discussed above. This could have been avoided by purposive sampling on the basis of responses regarding duration of symptoms. However, this issue emerged in analysis at a late stage when it was too late to alter the qualitative sampling frame.

Weaknesses in the qualitative data may be less obvious than in the quantitative data but it is possible that different findings might have been generated had different approaches to purposive sampling been taken or different interview schedules used. One example of the latter would be possible inclusion of questions regarding why they had not discussed

particular symptoms with others. Again, this issue emerged too late in the analysis for it to be included in discussions with women. However, as I have already written, data generated are the product of the design and methods used and a different approach to either would have produced different data. It is the points of comparison and divergence with previous research that allow theory development and generalisability.

7.2 Strengths and weaknesses of combining quantitative and qualitative research

As set out in chapter three, examination of texts on how best to integrate quantitative and qualitative findings suggested several steps (Fielding and Fielding, 1986; Mason, 1994): the formulation of a small number of clear questions to address to the different data sets; a thorough exploration of differences between the two, or unexpected findings, with recourse to the other; and the necessity to always bear in mind how the data were constituted, what they tell us about and with what strength of claim.

There are three key questions addressed by both quantitative and qualitative data sets in this study:

- What do women do to manage menstrual symptoms themselves?
- Do women speak to others about menstrual symptoms?

- Why do women consult about menstrual symptoms?

In addition, these related questions were also addressed to both data sets:

- Why are periods as a reported as a problem? How do women speak about judging periods as a problem?

The interplay between qualitative and quantitative findings was different in attempting to answer each of these questions.

WHAT DO WOMEN DO TO MANAGE MENSTRUAL SYMPTOMS THEMSELVES?

Here the qualitative data were useful in further elaborating on our findings regarding questionnaire items such as the concept of 'rest' as a coping response to menstrual symptoms. In response to the question, 'Do you stop your normal activities at the time of your periods?' 28% reported doing so some or most periods. This substantial proportion would suggest a major impact of these symptoms and it would seem surprising that more had not consulted. However, in the qualitative interviews, women spoke about making adaptations to activities and 'routinised' these approaches, expecting to have altered activities each month. For example, some were able to work shorter days and others regularly enlisted help from others to allow reduced childcare or housework during their periods. In this way, the qualitative research allowed a greater understanding of the quantitative findings.

DO WOMEN SPEAK TO OTHERS ABOUT MENSTRUAL SYMPTOMS?

Analysis of both qualitative and quantitative data concluded that most women spoke widely to others about menstrual symptoms. However, as a result of apparent difficulties judging heaviness of loss, I became interested in which aspects of menstruation women felt able to discuss with others and what barriers there might have been to discussions. This was a question for which the strengths of claim of neither data set were particularly strong. The collection of quantitative data was hampered by a poor response to the question concerned. Furthermore, the question was framed as, 'In the last 12 months have you *asked for advice* from anyone about your periods?' This meant that those who had simply discussed symptoms with others in passing rather than viewing this as seeking advice may not have responded positively. Finally, this question was included in the second (detailed) questionnaire so was only addressed to women who had already reported their periods as heavy. This meant that comparing which symptom was most frequently discussed with others was restricted to those who either had heaviness alone or in combination with other menstrual symptoms, but not women who had other menstrual symptoms alone. There were suggestions in the qualitative data set that women were more likely to have discussed pain or a change in volume of loss with others rather than volume of loss in itself. However, this was to some extent inferred by what they didn't say they had discussed and I did not ask specifically why they had or had not discussed particular menstrual symptoms with others. Given our lack of complete confidence in the strengths of either data set to address this

question, we made the conclusion that, "What women are prepared to talk about, with whom and in which contexts is complex." However a tentative conclusion was that certain aspects of periods, such as pain, a change in cycle on approaching the menopause and treatment options, were more easily discussed with others than topics which would allow a comparison of volume of loss, such as sanitary protection used.

WHY DO WOMEN CONSULT ABOUT MENSTRUAL SYMPTOMS?

Quantitative answers to this question provoked a re-examination of the qualitative analysis, not eventually altering findings but refining by heightening awareness of deviant cases in the qualitative data (cases where 'things go differently' (Perakyla, 1997)). Careful analysis of deviant cases is an established qualitative procedure for ensuring a detailed description and analysis of qualitative data. However, an awareness of the quantitative findings made me more sensitive to the possible significance of these deviant cases. Survey data, by including responses from a wider sample, are more likely to highlight if there is a subgroup whose responses differ from the majority. Proponents of mixed methods have argued that using quantitative and qualitative methods together helps to avoid the 'holistic fallacy' which can endanger qualitative research, in other words, an over-simplified conception of the research topic where all accounts are congruent (Fielding and Fielding, 1986).

Quantitative findings regarding the relevance of severity of symptoms and concern about a recent change in symptoms led to closer examination of the small number of women in the qualitative study where these were important features. There was no direct measurement of severity within qualitative interviews other than interpreting accounts regarding impact of periods. (Or examination of questionnaire data, which was not found to be very informative. For instance, several of those reporting very heavy loss on questionnaire did not give the impression of very heavy loss at interview or speak of it as a major problem). Five women spoke about struggling with severe impact on work and, of these, four had consulted repeatedly and seemed more likely to view menstrual symptoms as appropriate for medical care in addition to self-care. One interviewee, Margaret, explicitly rejected the notion of menstrual symptoms as 'not real illness', although she was speaking about endometriosis from which she had suffered considerably over a number of years.

Initial analysis of the qualitative data suggested that few women in our sample expressed a great deal of worry about the cause of their symptoms. However, the quantitative finding regarding the association between worry regarding a recent change in periods and reporting periods as a problem caused me to re-address my qualitative conclusions regarding worry about symptoms. There were some women who had experienced a recent change in volume, but others seemed to have satisfied themselves with an explanation for this either by themselves or through discussions with others. Katherine, who had reached a potentially threatening explanation (a recent smear had to be repeated), seemed to express more worry,

had consulted three times and intended to consult again. Although the importance of recency of onset of symptoms was not something that would have transpired from the qualitative data alone, it is congruent with qualitative findings presented in chapter 4 regarding how women came to judge their periods as 'heavy', where many respondents referred to personal norm.

WHY ARE PERIODS REPORTED AS A PROBLEM? OR 'HOW DO WOMEN SPEAK ABOUT JUDGING THEIR PERIODS AS A PROBLEM?'

This is an example of possible 'triangulation' between methods in the sense that qualitative and quantitative findings concurred. Multivariate logistic regression highlighted the high odds ratios for reporting either pain or heaviness in relation to reporting periods as a problem. In the qualitative data set women spoke about judging periods as a problem in terms of impact of symptoms and some spoke about the greater impact of experiencing more than one menstrual symptom alone. However, as discussed in chapter three, the notion of qualitative and quantitative data 'validating' each other is problematic and a better goal might be to see how they can complement each other. The contribution of the qualitative data here is how relatively unimportant it was to women to separate different menstrual symptoms from each other in terms of impact, and hence this was not articulated in interviews. It seemed to be the whole menstrual experience that was relevant to women, not the experience of individual menstrual symptoms.

OVERALL REFLECTIONS ON COMBINING QUALITATIVE AND QUANTITATIVE METHODS

Greene and Caracelli (1997) write that 'component' or 'dialectic' designs for combining qualitative and quantitiative methods are distinguished by the degree, nature and timing of the mix of methods:

> *"In component designs, the mix is conducted at the end stages of inquiry; in integrated designs, the mix is conducted at multiple stages of inquiry for purposes of reframing questions, reconstructing instruments, re-analysing data, or refining interpretations and conclusions."*
>
> (Greene and Caracelli, 1997:29)

They advocate dialectic designs in reaching the full potential of mixed methods, at least in evaluations in the field of social research. The study presented here would be viewed in this categorisation as a 'component' combination of methods rather than a 'dialectic' combination, hence not achieving the full potential of combining methods. Indeed, a more fully integrated design or a more sequential design could have yielded greater insights. For instance, it would have been useful if a qualitative study had informed questionnaire design. (One example would be to ask whether they had *discussed* periods with others rather than *asked advice*). Conversely, it would have been useful if eventual quantitative findings, such as the importance of subgroups with severe or recent onset of symptoms, had been available to more fully inform purposive qualitative sampling and interview schedule. It is, however, difficult to see how this could be achieved in a project of relatively short

duration where instruments have to be developed early on for a range of reasons, including obtaining ethical approval. To allow full analysis of each component and enable this iterative type of working would have required a research project of approximately twice the duration of this one (or perhaps a large team with excellent communications). It might be interesting to attempt such an endeavour in the future if funding of this kind ever became available.

7.3 Main findings in the context of existing literature

7.3.1 Implications in relation to understanding heavy menstrual bleeding

This study provides the most precise estimates to date of prevalence of self-reported menstrual symptoms amongst women aged 25 to 44 and shows how very common they are. Of women who had menstruated in the past six months, 35% reported heavy periods, of whom 5% reported very heavy periods. This figure is higher than earlier studies (Gath et al, 1987; Corrado, 1990) but a more recent study found an even higher prevalence (Shapley et al, 2004). This may be related to secular changes, that women may be less likely to tolerate symptoms than a decade ago, possibly related to the higher proportion of women using hormonal contraception, meaning that they may be 'recalibrating' to contraceptive pill withdrawal bleeds rather than natural periods.

In comparison with surveys to date (Gath et al, 1987; Corrado, 1990; Shapley et al, 2004), our study is not only larger but provides richer information than previously available about the complex associations of menstrual symptoms with age, parity, hormonal contraceptive use, socio-economic status and general health. Most other studies which have examined the effect of these factors have looked at measured menstrual loss rather than self-reported menstrual loss and have been hampered by small study size (Cole et al, 1971;Elwood et al 1968; Hallberg et al 1966; Rybo, 1966; Rybo and Hallberg, 1966). Brown et al (1988) carried out a detailed study of the effects of contraception and smoking on a range of menstrual symptoms controlling for age, parity and socio-economic status (husband's occupation if married or woman's occupation if unmarried). However, they did not report overall prevalences or relationships between age, parity or socio-economic status and menstrual symptoms. We found, as they did, that hormonal contraceptive use was protective for both heavy menstrual loss and menstrual pain. Importantly, a univariate association between age and reporting heavy periods was no longer apparent once hormonal contraceptive status was available to a multivariate model. We were able to show further that parity, reporting longstanding illness and (weakly) lower socio-economic status were associated with reporting periods as heavy.

We found that parity was positively associated with reporting heavy menstrual bleeding and negatively associated with reporting menstrual pain (although the latter was not a strong relationship (odds ratio 0.87, 95% confidence interval 0.77 to 0.98)). There has been

confusion about the role of parity in heavy menstrual bleeding (van Eijkeren et al, 1989) and its role in menstrual pain is also unclear. Previous studies have found that the prevalence of menstrual pain decreases with age and an apparent negative association with parity appears to be due to confounding by age and smoking (Pullon et al, 1988). We found that parity was not significantly related to reporting periods as a problem, possibly due to its positive and negative relationships with heaviness and pain, respectively. Women in the qualitative study commented that their doctor had told them that their menstrual problems would resolve on child-bearing. They presented this as unhelpful, as few would consider it a decisive factor in the choice to have children. Further, for those who had had children, they found it subsequently not to be true. This may be because the relationship between parity and pain is actually not very strong or because there is little overall association between parity and 'problem' periods.

It has been shown that socio-economic or educational status are associated with hysterectomy (Vessey et al, 1992; Kuh and Stirling, 1995) and consulting about periods (Royal College of General Practitioners, 1990) and that educational status is associated with opting for surgical treatment (Coulter et al, 1994). However there is only weak data suggesting that socio-economic status is associated with reporting menstrual symptoms (Blaxter, 1987). We found that area-level deprivation was associated with reporting heavy or painful periods. We also found that deprivation was associated with reporting periods as a marked or severe problem, although this became non-significant once menstrual

symptoms were controlled for, suggesting that the main association of lower socio-economic status was with reporting symptoms rather than reporting them as a problem. We were also able to demonstrate that this relationship was not an effect of differences in parity or contraceptive choices, although it is unfortunate that we were not able to control for smoking. Little work has been done on the importance of longstanding illness in relation to menstrual symptoms – it may be that this is independently associated with the development or tolerance of menstrual symptoms or that it is a marker for social disadvantage in addition to area-level deprivation. More research into this is needed.

Menstrual symptoms are common with 39% reporting either heavy or very heavy loss or severe pain. Reporting a menstrual *problem* was less common (22%) and this is an important distinction for menstrual research, as many women reporting heavy or painful periods did not therefore report them as a 'problem'. Multivariate logistic regression showed that reporting severe pain was at least as strongly associated with reporting 'problem' periods as very heavy loss and severe pain affects many more women. Yet guidelines (Royal College of Obstetricians & Gynaecologists, 1998) and possibly clinicians (O'Flynn and Britten, 2004) remain more concerned with heaviness rather than pain.

Consulting about periods in the last six months was reported by 18% of all women and this is higher than previously reported (Royal College of General Practitioners, 1990). It has

been noted before that consultation rates appear to be increasing for menstrual problems (Coulter et al, 1991) but our relatively low response rate could provide an alternative explanation for our finding a higher rate of consulting if those who had consulted were more likely to respond. Multivariate analysis showed that, amongst those reporting heavy or very heavy periods, consulting in the previous six months was associated with reporting very heavy loss, resting most periods and shorter duration of symptoms. Severity of symptoms (very heavy loss rather than heavy loss) and impact (rest) have been shown to be related to consulting in many previous studies of help-seeking (Rogers et al, 1999). The association of shorter duration of symptoms with consulting suggests that those who have not yet 'learnt to cope' or 'routinised' those symptoms may be more likely to consult. Alternatively, those with more recent onset of symptoms may be more likely to consult in search of an explanation for symptoms. In considering a symptom such as heavy menstrual bleeding, reported by over a third of women in this study, perception of periods as a problem is an important intermediate step in understanding the relationship between reporting menstrual symptoms and consulting.

The qualitative interviews suggested that women often seemed to view menstrual symptoms as something to be managed themselves, either alone or in discussion with lay others. The substantial lay discussion of painkillers, contraception, hysterectomy and the menopause found in our study may contribute to women's belief that they knew what they would be offered if they visited the GP. However, this sometimes seemed to lead to a

limited or partial knowledge of treatment options. In addition to the emphasis on lay networks for knowledge of treatments, many women had reached explanations for symptoms either alone or together with lay others, although for some the GP remained relevant to the search for an explanation.

Protheroe and Chew Graham (2004) found that many women attended secondary care seeking an explanation or 'label' for their symptoms. Seeking an explanation for change in the pattern of bleeding was also important to women interviewed by Marshall (1998) and O'Flynn and Britten (2000). Interviewees in our study also spoke about seeking explanations for their symptoms but were often happy with explanations they had reached themselves, either alone or through discussions with others. Viewed together with these other studies (carried out amongst consulters in primary or secondary care), it would seem that reaching an adequate and non-serious explanation for menstrual symptoms without recourse to medical advice is an important factor in not consulting.

O'Flynn and Britten (2000) linked their work to the concept of illness versus disease in that women rejected the emphasis on volume of loss in favour of a consideration of the overall impact of heaviness. This is very much in accord with our finding that degree of impact of symptoms was crucial to women's decisions regarding whether periods were a problem and whether to consult. However, our quantitative and qualitative findings highlight that the

impact of menstrual symptoms relates to total menstrual experience rather than heaviness alone. Again, this difference may be due to differences in sampling, in that O'Flynn and Britten's participants were recruited on the basis of having recently consulted for heavy menstrual bleeding and therefore heavy menstrual bleeding was likely to be a more important issue to them than other menstrual symptoms. Alternatively, women in their study could have been consulting with more general menstrual problems but felt obliged to privilege heavy bleeding in their accounts, either through symptoms being reframed in this way in the process of consulting, or through a perception of the interests of the research study. They may therefore have been more likely to talk about the impact of heaviness of loss on everyday life rather than the impact of menstrual symptoms more generally. There is evidence from other research supporting our finding of the importance of menstrual co-morbidity in perceiving periods as a problem and consulting. Indeed, research from secondary care shows that many women who view menstrual pain as their main problem are actually referred for heaviness of loss (Warner et al, 2001a). In combination, these studies therefore suggest that the full range of menstrual symptoms and their impact on quality of life should be considered in assessing and advising women in both clinical and research practice.

7.3.2 Implications for help-seeking and self-care literature

In order to understand help-seeking it is necessary to consider how people understand symptoms and illness. The literature review revealed several ways of defining illness:

departure from 'normality' or health; difficulty in fulfilling usual roles at home or in the workplace; or adoption of illness behaviour such as resting or consulting the doctor. The qualitative data presented in chapter four suggested that many women spoke with uncertainty about judging 'heaviness' and in doing so they referred to a variety of factors including personal norms, degree of difficulty in coping with blood loss and their pattern of loss. There was an inherent ambiguity in menstrual symptoms in that some degree of heaviness or pain could be viewed as 'normal'. The first of the definitions discussed above, 'departure from normality', was therefore difficult for women to apply to menstrual symptoms. Judgements of menstrual 'problem' seemed more straightforward and focused largely on the impact of symptoms on everyday life and ability to fulfil usual roles. These seemed particularly relevant to decision-making around self-care and help-seeking. The emphasis on the impact of symptoms in deciding to consult in the qualitative data and the strong association between reporting periods as a problem and reporting consulting for periods in the quantitative data suggest that interference with everyday life was a major factor in decision-making about consulting. Adoption of illness behaviour for menstrual problems was an area of difficulty for interviewees and ambivalence was expressed, for instance about adapting usual routines. This was possibly linked with a view of menstrual symptoms as being of questionable legitimacy in terms of constituting 'illness'.

Advice from professionals and others were part of the array of resources drawn on by women who viewed menstrual symptoms as something to be managed themselves. We

found a strong emphasis on the importance of self-care for menstrual symptoms and considerable self-care difficulties seemed to have been 'routinised', such as altering work routines each period, frequently changing sanitary protection, etc. Verbrugge and Ascione (1987) found that in chronic conditions, strategies of care (determined partly by individuals' roles, attitudes, and resources) were built up over months or years then applied during flare-ups. Furthermore, studies of help-seeking in chronic illness have shown that a decrease in expectations of health services may lead to increased self-coping over time (Rogers et al, 1999). Whilst women in our study may not have viewed heavy menstrual bleeding as a chronic illness, they did experience chronicity which may have contributed to their development of self-care strategies. In the qualitative part of our study women spoke about having learnt the limitations of services, either that they felt their doctor was not likely to take their menstrual problem seriously, or that they perceived there to be no treatments on offer that would be acceptable to them. (However, lay consulting had a role in this in that women's views of what they would be offered resulted from discussions with others as well as their own experiences.) Women's accounts of 'learning to cope' with menstrual problems also suggest that time and experience, or chronicity, contribute to the emphasis on self-care. The relevance of recency of onset of symptoms to perceiving periods as a problem or consulting may be because women with more recent onset of heavy menstrual bleeding have not yet 'routinised' monthly adaptations.

Although chronicity is one possible factor in the emphasis on self-care and 'learning to cope' rather than consult for menstrual symptoms, a view of period problems as 'not real illness' or a 'health problem which is not an illness' is another possible factor. Cornwell (1994) gave problems associated with the reproductive cycle or ageing as examples of conditions which could fall into this category and suggested that self-care might be viewed as particularly appropriate for these conditions. As discussed in the previous chapter, there are striking resemblances between our findings and those of Shaw et al (2001) in their study of help-seeking for chronic lower urinary tract symptoms such as leakage, another condition which could be viewed as a 'health problem which is not an illness'. Interviewees in Shaw et al's study did not view their symptoms as a legitimate reason for consulting and often asked about them while attending for something else, something which was a striking feature in our qualitative data too. Strenuous efforts to justify consulting and work absence for menstrual symptoms may have been related to the moral judgements associated with the adoption of illness behaviours where a condition is ambiguous, as in the case of 'health problems which are not an illness' (Locker, 1981). Ambiguity in interpretation of symptoms, an emphasis on self-care, questionable legitimacy of help-seeking or work absence and a limited search for meaning have all been described as features of conditions categorised as 'health problems which are not an illness' (Cornwell 1984; Locker, 1981). We have found many of these features to be salient to heavy menstrual bleeding or to menstrual symptoms more generally, suggesting that views of period problems as 'not real illness' have an influence on health behaviour.

The chronicity of many women's experience of menstrual symptoms and a view of them as 'not real illness' both form possible explanations for the emphasis on self-care over consulting in heavy menstrual bleeding. Other explanations are possible, or may contribute. As discussed above, it may be that our method of sampling focused on women with more chronic symptoms for whom self-care was a prominent feature. Another explanation could be that the sometimes indistinct boundary between 'normal' and 'heavy' periods may act to delay presentation of symptoms, as may the view amongst women that menstrual problems are common, that 'everyone gets them'. (However, although everyone gets periods, not everyone gets period problems, so this view reflects closely the lack of distinction about what is 'normal', both in clinical care and in everyday life). This emphasis on self-care may be true of other commonly experienced symptoms, particularly those of a more chronic nature, for instance as a result of increased lay information around prevalent conditions. Alternatively, the view of menstrual problems as 'part of being female' may add an extra imperative to 'cope' and not seem 'hysterical' by consulting, over and above any emphasis on self-care which might be found in other commonly experienced symptoms. It has been noted in studies on ageing that, "To be ascribed the status of a competent adult person depends on the capacity to control urine and faeces" (Featherstone and Hepworth, 1991:376). In a qualitative study of breastfeeding, women spoke about trying to prevent leakage becoming apparent (by using breast pads) in order to, "maintain the appearance of

a well-controlled, civilised body," (Britton, 1998:74). Similarly, the ability to cope and control menstrual loss may be necessary to the status of a competent adult woman.

7.3.3 Implications for primary care

We found a wide range of experiences amongst interviewees with heavy menstrual bleeding, both in terms of the nature and degree of impact of their symptoms and in approaches to self-care and help-seeking. The survey revealed the variation in consulting behaviour where, although most women with heavy bleeding had consulted at some point, substantial minorities reported either never consulting or consulting repeatedly. We found that the number of women affected by severe pain was nearly three times the number affected by very heavy bleeding while the proportions within each group reporting their periods as a marked or severe problem were not dissimilar. Given that severe pain is therefore associated with a greater proportion of reports of problems with periods than heavy periods, it is surprising that it is the latter which often receives more clinical attention. A range of menstrual symptoms contributes to the overall impact of periods, including pain, cyclic bodily or mood changes and irregular bleeding. Yet the prevailing clinical preoccupation appears to be with heavy periods rather than assessing menstrual symptoms more broadly. Although exclusion of serious disease is clearly important, the emphasis should be on clarifying presenting symptoms, the impact of these on everyday life, and offering help and advice for these. O'Flynn and Britten (2000) highlighted the limitations of the disease model in heavy menstrual bleeding, proposing that this be

replaced with an 'illness model' which attempts to assess blood loss with a focus on the impact of heavy menstrual bleeding on everyday life. While this no doubt conforms more closely to women's concerns, it overlooks the contribution of menstrual symptoms other than heaviness to the overall impact of heavy menstrual bleeding. Women in our qualitative study often did not or could not distinguish between the impact of symptoms such as menstrual pain or general malaise and heavy menstrual bleeding.

Was the emphasis on self-care and lay consulting for menstrual problems helpful to women? It may have had merits in terms of promoting self-reliance and feelings of control over their own symptoms. However, the emphasis on self-care and deriving information from informal sources may also have had negative effects. Some women consulted with particular treatments in mind, sometimes based on incomplete knowledge of the full range available, derived from informal discussions within their social network. Others asked for advice about menstrual symptoms while consulting for something else. Both these processes had the potential for women to receive suboptimal treatment. While self-care and lay consulting may help women to feel in control of their own symptoms and reduce the burden on health care services, an over-reliance on managing problems without recourse to professional advice or information may lead to a limited repertoire of responses, such as inadequate analgesia or unnecessary acceptance of regular disruption to everyday life. Furthermore, women often felt they knew what the doctor would offer if they did consult and this may have formed a barrier to consulting if their knowledge of treatment options

was incomplete. Protheroe and Chew-Graham (2004) have shown that women attending secondary care for heavy menstrual bleeding had incomplete knowledge of treatments available. Although all were aware of hysterectomy, other treatments, such as the oral contraceptive pill or tranexamic acid, were not viewed as effective treatments. By asking about periods while attending for something else, women may have been more likely to encounter a dismissive response, as reported by some. This dismissive response may then be interpreted as signifying that no treatments are available, rather than a possible reluctance on the part of the doctor to embark on a new avenue at a point which he/she has perceived as nearing the end of the consultation. As mentioned earlier, Shaw et al (2001) found that some people with chronic urinary tract symptoms sought help indirectly by 'just mentioning' symptoms whilst consulting for something else. If the GP did not respond, they were often too embarrassed to broach the subject again and some interpreted the doctor not addressing the issue as an indication that no treatment was available. There is a difficult balance to strike between not medicalising a commonly experienced symptom and ensuring that individuals receive potential benefits that medicine might be able to offer. One way of addressing this would be to improve upon information for women through other sources such as information leaflets, possibly distributed by practice nurses if appropriate at the time of cervical smears, press releases to women's magazines, and health-related websites. A broad approach needs to be taken to improving the information exchange both within and without the consultation.

This research would suggest that women consult about periods for a variety of reasons, including the overall impact of a range of menstrual symptoms, and that this is often difficult to distinguish from the impact of heavy menstrual bleeding alone. All our findings lead to similar conclusions regarding implications for clinical care; that is, the desirability of an emphasis on supporting women by eliciting details of menstrual problems in the context of everyday life, and sharing and discussion of information. 'Reassurance and counselling', as recommended as initial management for menorrhagia in some guidelines (Coulter et al 1995a), might, as suggested above, be better replaced with a careful consideration of the presenting symptoms and how these can best be managed. While reassurance that their menstrual symptoms are not a sign of something wrong might be helpful for some, our study suggests that others will have consulted with other concerns, such as help with analgesia. It has been noted before that the diagnostic model is not particularly helpful for many presentations in primary care (McWhinney, 1997). Perhaps a new model could be developed for commonly experienced symptoms. It would resemble other patient-centred models of consulting, with an emphasis on elicitation of views and information exchange, but with explicit recognition that, while exclusion of serious disease is important, the main purpose of the encounter is to clarify presenting symptoms and help the patient to manage these. It is also useful to think what patient-centred consulting might mean in specific conditions. Particularly important in the context of heavy menstrual bleeding might be: exploring views and information resulting from lay consulting; assessing what the main symptoms are (not just volume of loss) and any concerns or explanations already arrived at; and helping women to cope with a range of symptoms.

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ABOUT YOUR PERIODS

1. Have you had a period in the past 6 months? *Please tick one box*

Yes ☐ No ☐

*If **'no'** please write in why you have not had a period in the last 6 months (for example, pregnancy, menopause, hysterectomy) then go to question 8.*

Please write in .....

*Please would you describe how your periods have been in the **last 6 months***

2. How many days do your periods usually last? *Please tick one box*

Less than 3 days ☐ 3 to 7 days ☐ 8 to 10 days ☐ More than 10 days ☐

3. How heavy are your periods? *Please tick one box*

Light loss ☐ Moderate loss ☐ Heavy loss ☐ Very heavy loss ☐

4. How painful are your periods? *Please tick one box*

No pain ☐ Slight pain ☐ Moderate pain ☐ Severe pain ☐ Very severe pain ☐

5. Do you feel your periods are a problem for you? *Please tick one box*

No, not at all ☐ Slight problem ☐ Marked problem ☐ Severe problem ☐

If no problem then go to question 8

6. What bothers you most about your periods?

Please write in.....

7. Have you consulted a GP about period problems in the last 6 months?
Please tick one box

Yes ☐ No ☐

ABOUT YOUR HEALTH

8. In general, would you say your health is *Please tick one box*

Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐

9. Over the last 12 months how many times have you consulted a GP or family doctor on your own behalf about anything at all, (not just periods)?

Please write in number, write 0 if never ⌊_⌋ times

10. Do you have any long-standing illness, disability or infirmity?
By longstanding we mean anything that has troubled you over a period of time or that is likely to affect you over a period of time. *Please tick one box*

Yes ☐ No ☐

ABOUT YOU

11. How old are you? *Please write in* ⌊_⌋ years

12. At what age did you finish your continuous full-time education at school or college?

14 or under ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 or over ☐

13. Is the home you live in *Please tick one box*

Rented from the council ☐ Owned/mortgaged by you or your family ☐

Rented from a housing association ☐ Other ☐

Rented from a private landlord ☐ *If other, please describe*.....

14. Which of the following applies to you? *Please tick one box*

Doing paid work full time ☐ *(30 hours or more per week)* Unemployed ☐

Doing paid work part time ☐ *(less than 30 hours per week)* Student ☐

Unable to work due to illness or disability ☐ Something else ☐

Caring for home and family or dependents ☐ *If something else, please describe....*
.....

15. What method of contraception are you using at the moment?
Please tick one box

Oral contraceptive (pill) ☐
Progesterone IUS or Mirena coil ☐
Female sterilisation (tubes tied) ☐
Other hormonal ☐ e.g. injection, Norplant, 'mini pill'
Partner has had vasectomy ☐
Condom or sheath ☐
None – no sexual relationship ☐
Cap or diaphragm ☐
None – planning family ☐
Rhythm method ☐
Coil or IUD ☐
Other ☐

If other, what is it?.....

16. Is it important to have the possibility that you could get pregnant in the future? Please tick one box

Not applicable (already sterilised) ☐ Not important ☐ Fairly important ☐ Very important ☐

17. Have you had any babies? *Please write how many, or 0 if none* ⌊_⌋ births

If none please go on to question 19

18. In what year was your most recent baby born?

Last baby born in ⌊_⌋⌊_⌋⌊_⌋⌊_⌋

AND FINALLY...Your postcode

19. Please could you write in your postcode ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋

ABOUT YOUR PERIODS

*Please answer about your periods **in the last 6 months.***

1. There are lots of ways in which periods can be a nuisance, or a real problem. Please tell us what happens in your case and how much it bothers you.

Please tick one answer on each line	Does not happen	Happens but no problem	Happens and is		
			Slight problem	Marked problem	Severe problem
You feel generally unwell / tired because of your periods	☐	☐	☐	☐	☐
The amount of blood of your period is more than it used to be, normally	☐	☐	☐	☐	☐
Your periods cause interruption to your daily life, for example, work, sport, going out	☐	☐	☐	☐	☐
You have bleeding in between periods	☐	☐	☐	☐	☐
Your periods are irregular, in other words, you don't know when to expect them	☐	☐	☐	☐	☐
You have period-type pain **with** your periods	☐	☐	☐	☐	☐
You have other bodily changes before your periods, for example, bloating, breast discomfort	☐	☐	☐	☐	☐
The money you have to spend on sanitary pads and / or tampons	☐	☐	☐	☐	☐
You have period pain **before** your periods	☐	☐	☐	☐	☐
You worry that recent change in your periods, could be a sign that something might be wrong	☐	☐	☐	☐	☐
You have difficulty in preventing accidents (blood leakage)	☐	☐	☐	☐	☐
Your periods keep on for too many days	☐	☐	☐	☐	☐

Please tick one answer on each line	**Does not happen**	**Happens but no problem**	**Happens and is**		
			Slight problem	**Marked problem**	**Severe problem**
Your periods cause extra washing, of bedding, clothes, etc	☐	☐	☐	☐	☐
You have period-type pain **most** of the time	☐	☐	☐	☐	☐
Mood changes around your periods, for example, irritability, depression	☐	☐	☐	☐	☐
Your periods mean you lose too much blood	☐	☐	☐	☐	☐
You resent the interruption to your sex-life caused by periods *(if not applicable, write n/a)*	☐	☐	☐	☐	☐
Your partner complains about interruption to your sex-life due to periods *(if not applicable, write n/a)*	☐	☐	☐	☐	☐

MORE ABOUT YOUR PERIODS

*Please answer about your periods **in the last 6 months.***

2. What bothers you most about your periods?

Please write in .....

3. How long has this been bothering you?

Please write in ⌊_⌋ years ⌊_⌋ months

4. How many days do your periods usually last? *Please tick one box*

Less than 3 days ☐ Between 3 & 7 days ☐ Between 8 & 10 days ☐ More than 10 days ☐

5. For how many days of each period is the bleeding heavy? *Please tick one box*

No heavy days ☐ | 1 to 3 heavy days ☐ | 4 to 6 heavy days ☐ | 7 to 10 heavy days ☐ | More than 10 heavy days ☐

6. Does your period include clots (shiny dark red-black lumps)? *Please tick one box*

No ☐ | Yes – about 20p size ☐ | Yes – about 50p size ☐ | Yes – bigger than 50p ☐

7. What sanitary protection do you use, mainly?

Please tick one in each line	Don't use at all	Mostly Super plus	Mostly Super	Mostly regular
Pads	☐	☐	☐	☐
Tampons	☐	☐	☐	☐

8. Do you have to use more than one pad/tampon at the same time?
Please tick one box

Yes ☐ No ☐

<u>If Yes</u>, on how many days do you use more than one pad / tampon at the same time?

Please write in ⌊_⌋⌊_⌋ days

9. Do you have to get up at night to change your pads / tampons?
Please tick one box

Never ☐ Rarely ☐ Some periods ☐ Most periods ☐

<u>If you do get up at night</u>, how many nights each period do you get up?
Please tick one box

1 night ☐ Between 1 & 3 nights☐ 4 nights or more ☐

THINGS YOU DO TO HELP YOU DEAL WITH YOUR PERIODS

10. Do you use pain-killers for period pain? *Please tick one box*

Never ☐ Rarely ☐ Some periods ☐ Most periods ☐

If you use pain-killers

Do they control the pain?

Please tick one box

Never ☐ Rarely ☐ About half the time ☐ Most times ☐

Please name the pain-killer you usually use

Please write in

.....

Are these prescribed by a doctor or do you buy them yourself?

Please tick as many boxes as apply to you

Prescribed by doctor ☐ Buy from chemist / pharmacist ☐ Other ☐

If 'other' please describe.....

11. Is there anything else you take to help you deal with your periods?
(for example, hot drinks, herbal remedies)
Please describe.....

12. Do you stop your normal activities at the time of your periods?
(ie. paid work, looking after home or family) *Please write in*

Never ☐ Rarely ☐ Yes, some periods ☐ Yes, most periods ☐

If Yes, how many days in the last 6 months have you stopped your normal activities?

Please write in ☐☐

13. Is there anything else you do to help you deal with your periods?
(for example, hot water bottle, rest, massage)

Please describe .....

GETTING ADVICE TO HELP WITH YOUR PERIODS

14. In the last 12 months have you asked for advice from anyone about your periods?

If Yes, which of these did you discuss?

			Heavy bleeding	Period pain	Mood changes round period	Timing of periods	Other - Please describe
Friend	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Family member	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
GP	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Pharmacist	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Hospital doctor	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Health visitor	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Alternative medicine	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....
Other	Yes	☐→	☐	☐	☐	☐	
	No	☐					.....

15. Have you ever seen your GP about your periods?

Please tick one box

Yes ☐ No ☐

If Yes,

How long ago was the last time you saw your GP?

Please write in ⌊_|_⌋ *months ago*

How many times have you seen your GP about periods in the last 12 months?

Please write in ⌊_|_⌋ times

GENERAL HEALTH OVER THE LAST FEW WEEKS

Please read this before you start this section:
We should like to know how your health has been in general, **over the past few weeks.** Please answer **ALL** the questions by putting a tick (✓) in the box containing the answer which you think most nearly applies to you.

16. Have you recently				
	Better than usual	*Same as usual*	*Less than usual*	*Much less than usual*
been able to concentrate on whatever you're doing?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
lost much sleep over worry?	☐	☐	☐	☐
	More so than usual	*Same as usual*	*Less useful than usual*	*Much less useful*
felt you are playing a useful part in things?	☐	☐	☐	☐
	More so than usual	*Same as usual*	*Less so than usual*	*Much less capable*
felt capable of making decisions about things?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
felt constantly under strain?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
felt you couldn't overcome your difficulties?	☐	☐	☐	☐
	More so than usual	*Same as usual*	*Less so than usual*	*Much less than usual*
been able to enjoy your normal day-to-day activities?	☐	☐	☐	☐
	More so than usual	*Same as usual*	*Less so than usual*	*Much less able*
been able to face up to your problems?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
been feeling unhappy and depressed?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
been losing confidence in yourself?	☐	☐	☐	☐
	Not at all	*No more than usual*	*Rather more than usual*	*Much more than usual*
been thinking of yourself as a worthless person?	☐	☐	☐	☐
	More so than usual	*About same as usual*	*Less so than usual*	*Much less than usual*
been feeling reasonably happy, all things considered?	☐	☐	☐	☐

AND FINALLY...

17. When did your most recent period start?

Please write in approximately how long ago ago ⌊_|_⌋ days ago OR ⌊_|_⌋ weeks

18. Do you ever smoke now, even if it is just occasionally, or have you ever smoked in the past? *Please tick one box*

Smoke now ☐ In past only ☐ Never smoked ☐

If you do smoke now, many cigarettes do you usually smoke?

Please write in ⌊_|_⌋ per day OR ⌊_|_|_⌋ per week

If you smoke, do you smoke more or less when you have a period? *Please tick one box*

Smoke more during periods ☐ No different ☐ Smoke less during periods ☐

I was hoping to hear from you today was about **<u>your</u> experience of periods <u>in your own words</u> – what they're like, how they affect you, what you do to deal with them and what you've done to deal with them over the years.**
Any Q's before we start?

So, first of all, can you tell me about your periods?

Can you take me through a typical period –
Do you know when it's about to start?
What happens at the beginning / middle / end?
How do you feel at these times?

And what kind of effect do your periods have on your day-to-day life?

Do you not do things you would otherwise do when you have a period?
Why is that?
Going to work, outside of work/social life, and relationships

What have your periods been like over the years?
At what stage did you feel that your periods were a *problem* (or not) and why?

Have you ever got advice from a GP about your periods?

- Was it helpful?
- Ever seen anyone else?
- What was it that made you decide to go and see the GP (or whoever?)
- Was there anything in particular you were hoping for, or anything in particular you were hoping the GP would do?
- Do you think your past experience of going to the GP (or whoever) would affect decisions in the future if you had problems with your periods? Who would you see?

What do you find helps with your periods?

- How did you know to try this?
- What made you decide to try this?
- Do you talk about your periods or share ideas with other people? Who?

How much of an issue have periods been for you over the years?

Unmet information needs?

It's been really useful talking to you about your experiences. What do you think could be done for others?

PAPER SUBMITTED TO JOURNAL OF CLINICAL EPIDEMIOLGY

AND ACCEPTED SUBJECT TO REVISIONS

Socio-demographic factors in reporting menstrual symptoms:

Results from a large population-based survey

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SUMMARY

Objectives

This study aims to determine the prevalence of self-reported menstrual symptoms and 'problem' periods and to explore their relationship with socio-demographic factors.

Study design and setting

Cross-sectional postal questionnaire survey of 4610 women aged 25 to 44 registered with nineteen general practices in Lothian, Scotland; response rate 61.5%.

Results

Of women who had menstruated in the past six months, 30% reported heavy periods, a further 5% very heavy periods and 15% severe period pain. Only 22% reported their periods a marked or severe problem.

Multivariate logistic regression showed 'problem' periods to be associated with reported hormonal contraceptive use, longstanding illness, heaviness and pain. Severe pain was at least as strongly associated with 'problem' periods as very heavy loss (OR 21, 95% CI: 15-28 compared with OR 14, 95% CI: 8.0-24). The univariate association between age and 'problem' periods was not significant once hormonal contraceptive use was available to a multivariate model.

Conclusions

Reporting heavy or painful periods was common but reporting periods as a problem was less so. Reporting severe pain was at least as strongly associated with 'problem' periods as very heavy periods and severe pain affected many more women than very heavy periods. It is of concern that the prevailing clinical preoccupation with heavy periods does not reflect the epidemiology of menstrual symptoms or problem.

INTRODUCTION

Approximately 5% of women aged 30 to 49 in the UK consult their general practitioner about heavy menstrual bleeding annually [1]. It is the most common reason for referral to outpatient gynaecology services and there is concern about the numbers of women who undergo surgery, often in the absence of demonstrable pathology [2]. 'Heavy periods' is a description women apply to their periods so commonly [3] that it may not necessarily denote a 'problem'. Nevertheless, clinical guidelines continue to refer to the management of 'heavy periods' without distinguishing between those in need of treatment or not [4,5].

Provision of health services for menstrual problems depends on accurate information regarding community prevalence of problematic periods, and on an understanding of the association between menstrual symptoms and perception of a problem. In the case of the epidemiology of menstrual symptoms, the dearth of scientific information means that documents citing community prevalence are forced to refer to a market research poll carried out in 1990 on behalf of a pharmaceutical company [3]. This report is extremely difficult to obtain, contains no information about sampling or response rates, and the analyses reported are limited. Furthermore, although age, parity and contraceptive use are all thought to influence menstrual symptoms [6, 7, 8] and are clearly interrelated, to our knowledge there have been no multivariate analyses of their joint effect in a population sample. Finally, although hysterectomy rates are strongly inversely related to socio-economic class [9], no existing studies examine the joint effect of socio-economic class with other factors, such as age and parity, on self-reported heavy periods.

Clinical guidelines recommend treatment on the basis of subjective reports of heavy periods rather than objectively measured blood loss [4, 5]. Yet there is little information available about how frequently women with heavy periods actually view their periods as a problem. O'Flynn and Britten [10] found that women who had consulted a general practitioner for heavy periods rejected the medical emphasis on volume of blood loss and were more concerned about cycle changes and the overall impact of periods. Similarly, Warner et al [11] found that many women referred to gynaecology clinics reported that their 'problem' was a change in symptoms or concern that something might be wrong. Furthermore, patients are much more likely to be referred for heavy menstrual bleeding than for menstrual pain, even if it is pain that has led to help-seeking [12]. There have been calls for research into helping women to cope with heavy periods [13]. This will not be possible without an understanding of the symptoms leading to perception of periods as problematic.

This paper provides the first epidemiological account of the prevalence of menstrual symptoms and problem periods, the associations between these and with socio-demographic factors. The research undertaken was a community survey of the self reported symptoms of heavy periods and period pain. The principal interest was women's own perception of their periods as problematic, which is presumed to be the first step in decision making about consulting for menstrual symptoms.

METHODS

Design

This was a cross-sectional survey of women aged 25 to 44 years. A list of all general practices in Lothian, UK, was stratified by practice size and deprivation and practices were randomly selected from within strata. To achieve the target of 20 practices, 32 were approached. A random sample of 250 women was selected from the practice list (or all women in target age if fewer than 250).

Participants and response rate

One practice subsequently withdrew. The sample comprised 4772 women aged 25 to 44 randomly selected from 19 general practices in Lothian, UK. General practitioners screened the sample lists and excluded women who had moved away or for whom receiving a questionnaire was considered harmful. A single reminder was sent to non-responders after four weeks. The study was approved by the Lothian Research Ethics Committee.

Questionnaire development

The questionnaire was developed from questionnaires used in published studies undertaken in secondary care [12, 14] and asked about menstrual symptoms (over past six months), consulting, longstanding illness, contraception, parity, postcode and age. Two focus group discussions were conducted in order to check whether questionnaire wording and themes were appropriate to women who had not necessarily consulted about their periods.

Statistical methods

Missing responses for questionnaire items were never more than 2.3% (59/2574 for the question regarding pain). Denominators are only presented where the exclusion of missing data leads to a difference of more than one per cent. Associations between variables were tested for statistical significance using the χ^2 test (with correction for continuity where appropriate). In 2×c tables with c ordinal variables the χ^2 test for trend was used, and ordinal by ordinal association was summarised by Spearman non-parametric correlations. Logistic regression was used to investigate if socio-demographic and contraceptive factors were associated with reporting of menstrual symptoms and of periods as a marked or severe problem. Analyses were carried out using SPSS version 11.

RESULTS

Response rate

In total, 2833 women returned a completed questionnaire (response rate 61.5% (2833/4610)) (fig 1). Non-responders were younger and more likely to be living in an area of greater deprivation as calculated on the basis of postcode (table 1).

Prevalence of menstrual symptoms and associations with socio-demographic factors

Of women who had menstruated in the preceding six months, 30% (771/2559) reported heavy blood loss and a further 5% (135/2559) reported very heavy loss. Severe or very severe pain was reported by 15% (366/2515). (Only 2% reported very severe pain so subsequently 'severe' and 'very severe' were analysed together). Table 2 shows the univariate associations between reporting menstrual symptoms and socio-demographic variables, longstanding illness and hormonal contraceptive use. It can be seen that reports of heaviness increased with age, parity, deprivation and longstanding-illness and decreased markedly with hormonal contraceptive use. Reports of pain increased with deprivation and longstanding illness and decreased markedly with hormonal contraceptive use.

Amongst women using an intrauterine contraceptive device (IUCD), the proportion reporting a marked or severe period problem (17/69) was similar to those using non-hormonal or no contraception. This group is presented separately, and excluded from subsequent analyses, because of the known association of IUCD use with heavy menstrual bleeding [15].

Socio-demographic variates were themselves interrelated: parity increased, and deprivation decreased, with age (Spearman r = 0.40, 95% CI: 0.37 to 0.43, and -0.12, 95% CI: -0.16 to -0.08 respectively). There was an association between parity and deprivation which was modified by age with nulliparity being the modal value for women aged less than 35 years, whereas amongst women aged 35 or over the mode was two children for all except those living in most deprived areas where the mode was three or more children. Longstanding illness increased with deprivation (21% to 35% across the five levels). Use of hormonal contraception decreased with age (from 54% amongst women aged less than 30 years to 13% amongst women aged 40 to 45 years). Use of hormonal contraception also decreased with parity (from 41% amongst nulliparous women to 18% amongst women with three or more children); and with longstanding illness (25% amongst those reporting longstanding illness, 32% if not). There was no overall association between hormonal contraception use and deprivation. Due to the complex relationships between the five variables, they were entered into the model together to assess joint effects.

Table 3 shows the results for heaviness and pain when socio-demographic factors, longstanding illness and hormonal contraception were entered together in a multivariate analysis. For heavy periods, the effect of age was reduced when there was adjustment for other socio-demographic factors. Increasing parity became significantly protective for pain and remained a risk factor for heaviness. Effects of deprivation, hormonal contraception and longstanding illness were unchanged, as was the strongly protective association between hormonal contraception and both heaviness and pain. In summary, the combined

model for heaviness showed that hormonal contraception and, to a much lesser extent, age were protective while deprivation, parity and longstanding illness were risk factors. In the case of pain, parity and particularly hormonal contraceptive use were protective while deprivation and longstanding illness were risk factors.

Reporting problem periods and associations with menstrual symptoms
Periods were reported as a marked or severe problem by 22% (552/2551) of menstruating respondents. Reporting a marked or severe problem was associated with age, parity, deprivation, longstanding illness and non-use of hormonal contraception on univariate analyses (table 2). Thirty-seven per cent of women who reported heavy periods and 83% of women who reported **very** heavy periods replied that their periods were a marked or severe problem. Seventy-five per cent of women who reported severe pain replied that their periods were a marked or severe problem, only a slightly smaller percentage than for those with very heavy periods. Yet, nearly three times as many women reported severe pain than reported their periods as very heavy (366 compared with 135). Figure 2 shows the percentages of women reporting their periods as a marked or severe problem, by heaviness of periods (three categories), separately for all women and for those with and without severe pain with their periods. This shows that reporting pain as well as heaviness makes 'problem' periods substantially more likely.

Factors associated with reporting periods as a problem: multivariate analysis
Table 4 shows the results of multivariate modelling to examine factors associated with reporting periods as a marked or severe problem. Socio-demographic characteristics, then longstanding illness and hormonal contraception were entered into the model (and hence adjusted for jointly) before assessing the relevance of symptom severity. When considered jointly with age and socio-economic status, parity was not significantly associated with reporting a problem. When longstanding illness was added to the model there was a significant improvement in fit but minimal change to the pattern of associations. Adding hormonal contraception also substantially improved fit and showed hormonal contraception use to be protective against reporting periods as a problem. However, it also resulted in the effect of age being substantially diminished (and no longer statistically significant). Finally, the three menstrual symptoms were added to the model resulting in a highly significant improvement in fit. Once menstrual symptom status was available to the model, the importance of deprivation, longstanding illness and hormonal contraception were diminished, with only the effects of longstanding illness and hormonal contraception remaining statistically significant. This suggests that longstanding illness and hormonal contraception are associated with reporting of menstrual symptoms and, over and above this, are associated with reporting a problem. The odds ratio for reporting a problem if both very heavy periods and severe pain were reported was 58 (95% CI: 18-189) showing the very strong combined effect of symptoms on reporting a problem.

The univariate analyses had revealed how much more strongly 'very heavy' rather than 'heavy' periods were associated with 'problem' periods. We have therefore presented multivariate modelling for 'very heavy' periods. If 'heavy' was entered instead of 'very heavy', however, the resulting model differed little in terms of model fit or odds ratios of other variables but the relevance of heaviness became much less (OR = 4.2, 95% CI: 3.2-

5.5).

DISCUSSION

Main findings

The experience of heavy or painful periods is common (39% of women reported either or both in this community sample). However, reporting periods as a marked or severe problem is less common (22%). Less than half of women (37%) reporting heavy (but not very heavy) blood loss reported their periods as a marked or severe problem, yet 'heavy periods' is the usual descriptor of menorrhagia employed in guidelines [4] and therefore the first step on the path to medication and possible surgery. Indeed, severe pain accounts for a far greater proportion of reported problems with periods than heavy periods. Of those reporting very heavy loss, 82% reported a problem, which was similar to 75% of those reporting severe pain. However 'very heavy periods' comprised only 5% of the sample, whereas nearly three times as many women (15%) were affected by severe pain. It is therefore surprising that it is heavy menstrual bleeding that is more frequently the reason for referral [12] and the focus of clinical attention.

Multivariate analysis showed reporting heavy periods to be more likely with increasing parity, deprivation and in the presence of longstanding illness or non-use of hormonal contraception. Severe pain was more likely with increasing deprivation, longstanding illness, lower parity or non-use of hormonal contraception. Parity was a risk factor for reporting heavy periods but was protective against reporting painful periods. There was no consistent association of parity with reporting a menstrual problem presumably because some reported problems were due to pain and others to heavy periods. Considered univariately, age was a risk factor for heavy periods, but once the other socio-demographic variables were included the effect disappeared. The model for reporting periods as a problem showed age as being significant until hormonal contraceptive use was included in the model. This shows that the age effect was largely due to confounding by demographic patterns of hormonal contraceptive use, suggesting that the prevalence of menstrual problems is likely to be highly sensitive to secular trends in hormonal contraceptive use. The model for 'problem' periods showed that the effect of long-standing illness and hormonal contraception were reduced but still significant once menstrual symptoms were in the model. This indicates that they were associated with 'problem' both directly and through their association with symptom reporting. In the case of hormonal contraception, this could be because many young women have become accustomed to withdrawal bleeds from oral contraception and therefore view 'natural' menstruation as excessive. While there was a significant trend for women living in more deprived areas to report more menstrual symptoms, this trend was not statistically significant in respect of reporting 'problem' periods. That is, once adjusted for symptom reporting, women living in deprived areas were not significantly more likely to report problems.

Strengths and limitations of this study

These data make an important contribution to our knowledge about the epidemiology of menstrual symptoms, and are the first to address perception of periods as a problem. It is the largest population survey since hormonal contraception has been in widespread use to

look at the prevalence of a range of menstrual symptoms in detail. The community-based sample enables a comparison between women who did and did not report their periods as a problem.

There are important methodological considerations in estimating the population prevalence of heavy menstrual bleeding. Firstly, as prevalence is dependent on both incidence and duration of symptoms, women with persisting symptoms will be over-represented in comparison with women whose symptoms are short-lived, either through spontaneous resolution or through prompt treatment. Secondly, the population of women at risk of menstrual disturbance is constantly shifting as periods may cease either temporarily (for instance due to pregnancy, breastfeeding or treatments such as depot contraception) or permanently (for instance due to hysterectomy or menopause). This shifting denominator may lead to bias in estimates if those whose symptoms are worst remove themselves by seeking treatments such as hysterectomy. Furthermore, associations with demographic factors can be distorted since hysterectomy is most prevalent in older women and those of lower socio-economic class [9].

A response rate of 61.5% is about what would be expected in a community survey but raises questions about non-responders. The findings may overestimate prevalence of menstrual symptoms as women for whom the questionnaire was more salient would be more likely to respond. Furthermore, it is possible that factors not measured here, such as perimenstrual mood changes, are also associated with perception of periods as a problem. Finally, it should be noted that women responding that they have menstrual symptoms may not ever have consulted for this. We use the term 'symptoms' to refer to women's reports of their menstrual experience as elicited by questionnaire. Therefore use of 'symptom' here does not equate with the presentation of symptoms in clinical care. Similarly, the term menstrual 'problem' denotes the reporting on questionnaire that periods are a marked or severe problem.

Findings in the context of other research

A market research survey of menstruation found that 25% of women aged 25 to 45 reported heavy periods in the past six months [3]. Our figure of 35% reporting heavy periods in the past six months is higher than this but interpreting this difference is complicated by the limited information about study methods in the market research survey. A smaller community survey [16] found that 30% of premenopausal women said their periods were fairly or very heavy and another [17] found that 20% of parous women in the UK reported their periods as heavy. The latter used a three point scale of light, moderate or heavy so it would be expected that their 'heavy' would encompass 'heavy' and 'very heavy' in our study. Changing patterns in contraceptive use and childbearing may also have an impact. Amongst women aged 25 to 45 in the market research survey, 18% were using hormonal contraception whereas in our study this proportion was 31%. This probably reflects the relaxation in the age limits for pill use that were common 15 years ago. Given the protective effect of hormonal contraception, its higher usage would be expected to lead to fewer women in our study reporting menstrual symptoms or 'problem' periods. The reverse appears to be the case as our study found a higher prevalence of heavy periods than previously reported. It could be that higher rates of hormonal contraceptive use mean that

fewer young women are experiencing 'natural' menstruation and instead may be 'normalising' to the withdrawal bleeds of the combined oral contraceptive pill. This could account for a secular change in calibration of 'normality', and more frequent judgements of natural periods as 'heavy'. It could also account for the increasing rate of consultation for menstrual problems [1]. The prevalence of menstrual pain in the present study is similar to that found elsewhere [3, 16, 17, 18, 19, 20].

Remaining questions

A large proportion of women report heavy and/or painful periods, yet only some perceive periods as a problem. In order to better understand consulting behaviour and to provide advice for the large number of women adversely affected by menstrual symptoms, we need a more detailed understanding of what makes menstrual symptoms problematic and what prompts different self care and help seeking strategies.

CONCLUSIONS

Reporting heavy or painful periods is common but reporting periods as a problem is less so. Women living in areas of higher deprivation were more likely to report heavy or painful periods but, once these symptoms were adjusted for, deprivation was not significantly associated with reporting periods as a problem. Longstanding illness, however, was a risk factor for reporting symptoms with an additional risk for reporting a problem. Hormonal contraception was strongly protective of both symptoms and additionally protective of reporting a problem. Age was univariately associated with reporting heavy or 'problem' periods but this was not a significant association once hormonal contraceptive use was available to a multivariate model, probably due to decreased hormonal contraceptive use with age. Parity was positively associated with reporting heavy periods, negatively associated with painful periods and showed no significant association with 'problem' periods.

This study found reporting of severe or very severe pain to be more strongly associated with reporting periods as a marked or severe problem than reporting heavy or very heavy periods and, furthermore, that severe pain is reported by many more women than very heavy periods. This corresponds with studies concluding that the clinical emphasis on volume of blood loss might be better replaced with a broader assessment of the impact of periods on quality of life and closer attention to what aspects of periods are problematic [10, 12, 21].

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Figure 1
Recruitment to study

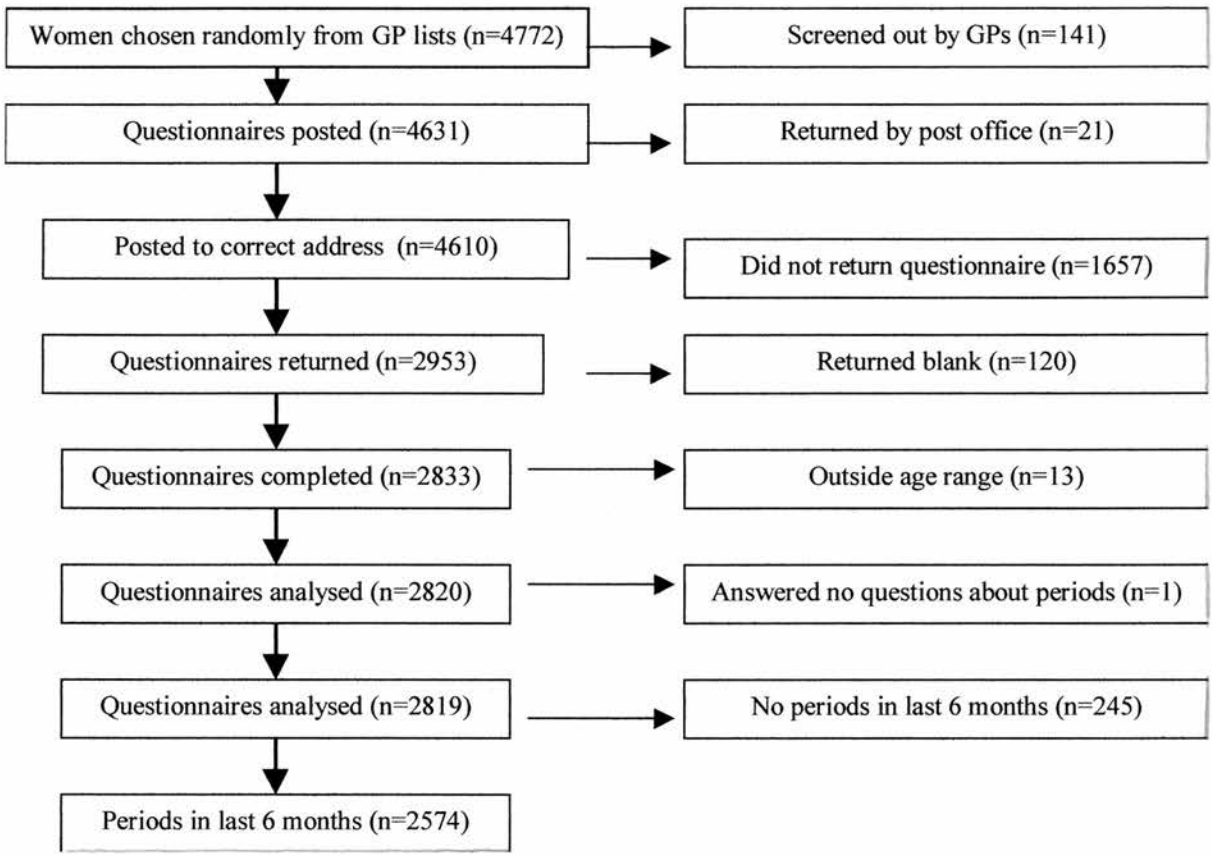

Table 1

Characteristics of responders *

	Non-responders		Responders		No periods in past 6 months **	
	n	%	n	%	n	%
Age						
25 - 29	498	30.6	509	18.5	43	17.5
30 - 34	444	27.3	708	25.7	63	25.6
35 - 39	390	24.0	748	27.2	69	28.0
40 – 44	294	18.1	788	28.6	69	28.0
Total	*1626*	*100*	*2753*	*100*	*245*	*100*
Postcode derived deprivation						
1 (least deprived)	265	18.0	585	22.4	55	23.0
2	446	30.3	973	37.3	84	35.1
3	177	12.0	351	13.5	26	10.9
4	443	30.1	549	21.1	60	25.1
5 (most deprived)	142	9.6	148	5.7	14	5.9
Total	*1473*	*100*	*2606*	*100*	*240*	*100*

*Totals differ as there are missing data for both age and deprivation category (total n = 4610).

**Reasons given for no periods in the past six months were: pregnancy or breastfeeding (97/245 (40%)); hysterectomy (67/245 (27%)); depot or other contraception (53/245 (22%)); menopause (5/245 (2%)); blank or 'other' (16/245 (7%)).

Table 2 **Menstrual symptoms and perception of periods as a marked or severe problem by age, parity, postcode derived deprivation category, longstanding illness and contraception.** ***Univariate relationships*** *

		Heaviness		Severe or very severe pain		Periods last 8 days or more		Marked or severe problem	
	N	% heav/ v heav	% v heavy	N	%	N	%	N	%
Age group									
Less than 30	519	31.8	3.3	505	15.8	522	4.8	515	18.4
30 – 34	666	30.2	4.2	655	12.1	667	5.2	667	19.0
35 – 39	688	38.1	5.4	675	15.1	687	6.7	684	22.4
40 – 45	672	40.3	7.7	665	15.2	675	8.9	670	26.0
TOTAL	2545	35.3	5.3	2500	14.5	2551	6.5	2536	21.6
Linear odds ratio		1.17	1.36		1.02		1.27		1.17
(95% confidence interval)		(1.08–1.26)	(1.15–1.61)		(0.92–1.13)		(1.09–1.47)		(1.07–1.28)
Parity									
0	918	25.8	2.9	897	16.6	924	3.4	914	20.0
1	488	34.8	5.3	482	13.1	488	5.3	485	19.2
2	760	41.7	7.6	743	12.7	752	8.6	752	23.5
3 or more	346	50.6	7.2	342	15.8	349	11.5	347	26.5
TOTAL	2505	35.8	5.4	2464	14.6	2513	6.4	2498	21.8
Linear odds ratio		1.43	1.41		0.93		1.57		1.13
(95% confidence interval)		(1.32-1.54)	(1.20–1.65)		(0.84–1.04)		(1.35–1.82)		(1.04–1.23)
Postcode derived deprivation									
1 (least deprived)	543	34.3	3.5	531	10.2	543	6.1	540	16.9
2	935	33.6	5.3	915	12.6	937	6.5	929	20.3
3	341	36.1	5.6	339	15.3	344	6.4	344	22.7
4	587	38.5	6.0	583	18.5	589	6.5	589	26.5
5 (most deprived)	122	36.1	8.2	118	25.4	122	9.0	119	24.4

TOTAL	2528	35.3	5.3	2486	14.4	2535	6.5	2521	21.5
Linear odds ratio (95% confidence interval)		1.06 (0.99–1.13)	1.17 (1.02–1.35)		1.28 (1.17–1.41)		1.05 (0.92–1.19)		1.17 (1.08–1.27)
Longstanding illness									
Yes	592	44.8	7.8	576	21.9	592	10.1	593	31.2
No	1927	32.7	4.6	19.3	12.4	1934	5.4	1920	18.7
TOTAL	2519	35.5	5.3	2479	14.6	2526	6.5	2513	21.6
Linear odds ratio (95% confidence interval)		1.67 (1.38–2.01)	1.76 (1.22–2.55)		1.98 (1.56–2.51)		1.99 (1.42–2.77)		1.97 (1.60–2.43)
Hormonal contraceptive use									
(a) No hormonal contraception (IUCD users excluded)	1711	42.8	7.1	1677	18.4	1715	7.2	1704	25.9
(b) Hormonal contraception	755	17.4	0.9	746	6.2	757	3.6	754	10.9
(c) IUCD users	70	47.1	5.7	69	8.7	70	17.1	69	24.6
TOTAL	2536	35.0	5.2	2492	14.7	2542	6.1	2527	21.3
Odds ratio (b) vs. (a) (95% confidence interval)		0.28 (0.23–0.35)	0.12 (0.06–0.26)		0.29 (0.21–0.40)		0.48 (0.31–0.73)		0.35 (0.27–0.45)
Odds ratio (c) vs.(a) (95% confidence interval)		1.19 (0.74-1.93)	0.79 (0.28-2.20)		0.42 (0.18-0.98)		2.65 (1.39-5.07)		0.93 (0.53-1.63)

*Totals differ as there are missing data for all variables (total in this analysis n = 2574)

Table 3

Multivariate logistic regression models for factors associated with reporting menstrual symptoms: heavy or very heavy loss (combined); very heavy loss (alone); severe or very severe pain (n = 2274)

	Heavy or very heavy loss (combined) χ^2=216, df=5, p<0.001		Very heavy loss (alone) χ^2=74, df=5, p<0.001		Severe or very severe pain χ^2=126, df=5, p<0.001	
Age (linear) Per 5 year increase	0.89	(0.81 – 0.99)	1.11	(0.91 – 1.36)	0.93	(0.82 – 1.05)
Parity (linear) Per child (0, 1, 2, 3 or more)	1.40	(1.28 – 1.53)	1.20	(1.00 – 1.44)	0.87	(0.77 – 0.98)
Postcode-derived deprivation (linear) Per unit increase in score (where area of highest deprivation scores 5)	1.08	(1.00 – 1.17)	1.17	(1.00 – 1.36)	1.30	(1.18 – 1.43)
Longstanding illness Yes vs no	1.62	(1.31 – 1.99)	1.66	(1.12 – 2.46)	1.73	(1.33 – 2.23)
Contraception (hormonal contraceptive use vs 'other', IUCD users excluded	0.31	(0.25 – 0.39)	0.11	(0.04 – 0.27)	0.25	(0.18 – 0.35)

Percentage of women reporting periods as a marked or severe problem by heaviness of periods, separately for subgroups determined by reporting of pain, and overall (ignoring pain)

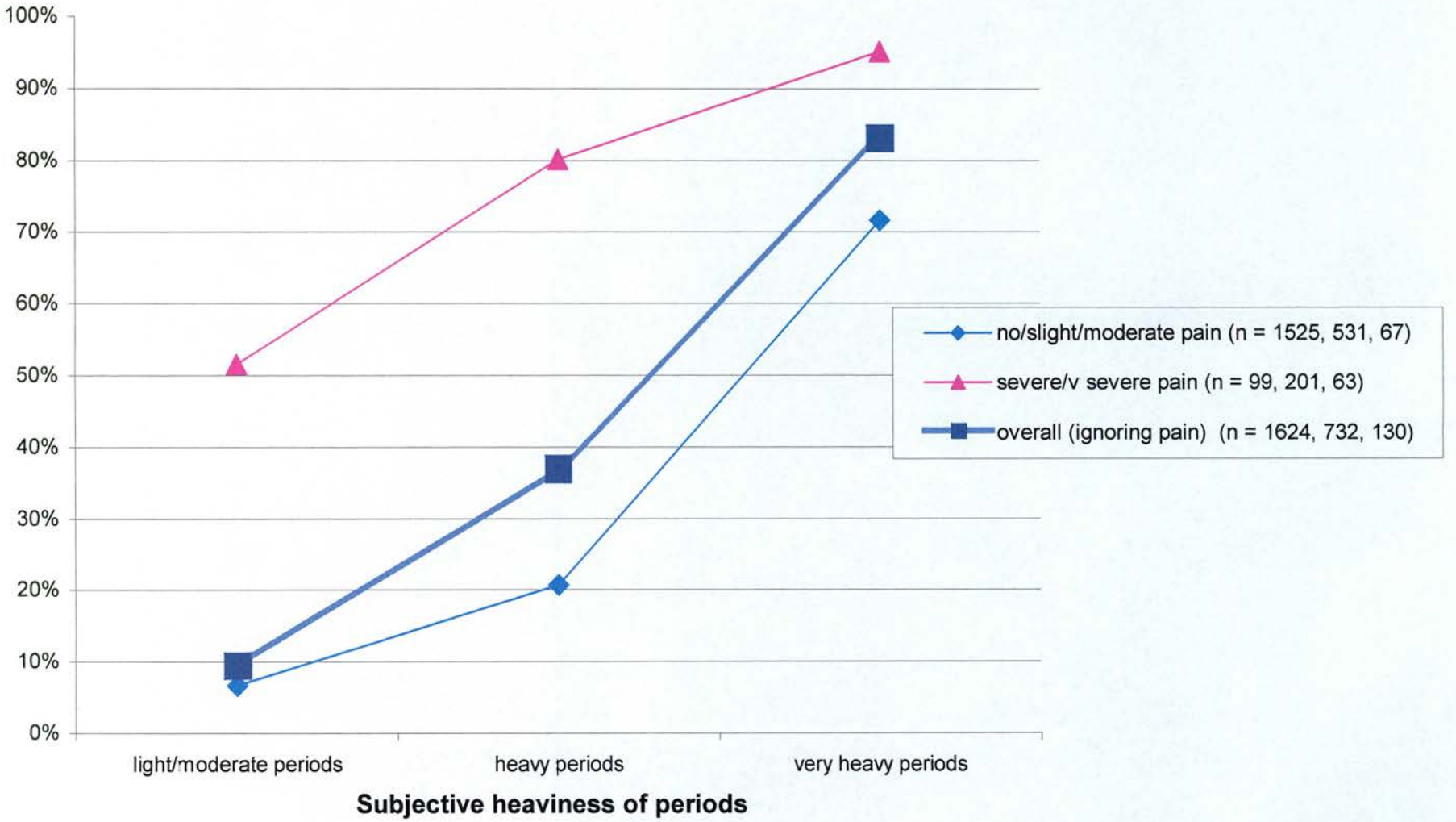

Table 4

Multivariate logistic regression modelling of factors associated with reporting of periods as a marked or severe problem (odds ratios and 95% CI): Stage 1 includes socio-demographic variables; Stage 2 adds contraceptive use and longstanding illness and Stage 3 adds symptom variables. (n = 2274)

	Stage 1 χ^2=32, df=3, p<0.001		Stage 2 χ^2(step)=84, df=1, p<0.001		Stage 3 χ^2(step)=674, df=3, p<0.001	
Age (linear) Per 5 year increase	1.15	(1.04 - 1.28)	1.03	(0.92 - 1.14)	1.08	(0.94 - 1.24)
Parity (linear) Per child (0, 1, 2, 3 or more)	1.10	(0.997 – 1.22)	1.07	(0.97 – 1.19)	1.13	(0.99 – 1.28)
Postcode-derived deprivation score (linear) Per unit increase in score (where area of highest deprivation scores 5)	1.20	(1.10 - 1.31)	1.19	(1.10 - 1.30)	1.08	(0.96 - 1.20)
Longstanding illness Yes vs no			1.80	(1.44 – 2.26)	1.48	(1.11 – 1.98)
Contraception (hormonal contraceptive use vs 'other', IUCD users excluded)			0.37	(0.28 – 0.49)	0.71	(0.51 - 0.98)
Heaviness (v heavy loss vs light/moderate/heavy loss)					13.9	(8.02 – 24.1)
Pain (severe/v severe vs no/slight/mod)					20.6	(15.0 - 28.1)
Duration of period (8 days or more)					5.14	(3.24 - 8.17)